STRATEGIC PLAN FOR RESOURCE CONSERVATION

Report on the Strategic Planning Project

City of Northampton

Prepared for the City of Northampton

by

Lozano, White and Associates, Inc.

in association with

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April, 1987

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ACKNOWLEDGEMENT

Funding for this report was provided by a Strategic Planning Grant from the Executive Office of Communities and Development; Community Develoment Block Grant Funds through the U.S. Department of Housing and Urban Development; and the City of Northampton.

EXECUTIVE SUMMARY

The City of Northampton has experienced steady growth and development for many years. Population grew from 24,700 in 1940 to about 30,000 today. Change has been a constant in the past, and the ability to gracefully adapt to change is one of the qualities which has made Northampton a highly successful city.

Growth, development and change will continue. The City's population is expected to reach 35,000 by the year 1995; residential development is forecast at a rate of 180-190 units per year.

Although past experience has shown that growth per se need not be a problem, City residents are concerned that the location and type of development now taking place is different from that of the past. New projects are large; homes being built are far more expensive than City residents can afford; rural land is disappearing. New development is different from the past largely because the City's current zoning ordinance forces new development to take place on large lots in rural areas. Zoning does not allow for replication of the traditional mix of affordable single, two- and three-family homes that characterize so many city neighborhoods, but rather, prescribes continued suburbanization.

If new development continues under present zoning, open land will continue to disapear, housing will be affordable only to higher income families, and the City's character will change significantly. Further, the City will have to make extensions of the water and sewer system, and road improvements, to serve development in now rural areas.

Recognizing this situation, the City has undertaken a strategic planning process to devise a new approach to its future. This new approach, the Strategic Plan for Resource Conservation, is based on the City's goals for its future. These goals are to:

1. CONSERVE NATURAL RESOURCES. The aquifer -- the source of supply for the City's two water supply wells --, the Roberts Meadow Watershed, floodplains of the Connecticut and Mill Rivers, wetlands, forests, and farmland must be protected.

2. PRESERVE THE CITY'S CHARACTER. The sharp contrast between rural areas and developed urban neighborhoods must be maintained, and new neighborhoods must replicate the old ones as places where middle income persons can live.

3. CONSERVE FISCAL RESOURCES. New development must not unduely burden the taxpayer. Thus, municipal infrastructure should be used efficiently; costly expansion of the water and sewer system should be avoided where existing systems have additional capacity. Water, sewer and road projects should be consistent with the City's development policy.

The Strategic Plan for Resource Conservation has two thrusts:

- conserving valuable natural resource areas, such as aquifers, farmland, and forested hills;

- directing some growth into and near already developed parts of the City -- the "core" between Florence and Downtown -- rather than forcing all growth to rural areas, as the current policy does.

Much new growth can be accommodated by converting single family homes to two- and three-family dwellings, and by developing remaining vacant land in the developed core.

The advantages of this strategy over the current policy of suburbanization are that

- less open space will be lost to development;

- opportunities for housing that middle income residents can afford will be provided;

- development can be served more efficiently by the City's sewer, water and road systems; and

- costly extensions of infrastructure can be minimized.

A key factor in the success of the Strategic Plan for Resource Conservation is the need to balance individual interests with those of the City as a whole. To the extent that individuals perceive their own interests as opposing all changes -- even small ones -- in their immediate environment, the larger interests of the City will be compromised. For example, if residents refuse to accept any additional development in their neighborhoods, development will be forced into rural areas. The result will be the loss of resources, such as farmland, which are significant to the City as a whole, such as farms, wooded hills, and water resource areas.

To carry out the Strategic Plan for Resource Conservation, the City must make changes in the zoning ordinance and must change other regulations and programs. The tools and programs which have been developed through this Strategic Plan are presented below, grouped according to the purposes they are intended to fulfill.

Recommendations to Guide the Location of Development

Recommendations to Protect Natural Resources and the Character of Rural Areas

1. Increase minimum lot size requirements in portions of the rural areas of the City to three acres.

The existing one-acre minimum lot requirement in rural residential districts will ultimately result in development at a suburban density; this is inconsistent with the City's desire to maintain a contrast between urban and rural areas. Further, suburban development in some rural parts of the City will result in the loss of valuable open space and would necessitate costly improvements in public facilities and services.

A new district -- "Rural Residential - 3 acres," in which the minimum lot size is three acres -- should be established in areas which are least suited for development. These include hilly sections where soils and topography make for relatively difficult development conditions; remote portions of the City such as the southwest where new development would require that the City make road improvements which would otherwise be unnecessary; and areas where unprotected farmland and ground water resources exist.

The areas recommended for inclusion in the "Rural Residential - 3 acres" district include those west of Spring Street and Ryan Road; and west of Florence Road in the vicinity of Burts Pit Road and to the south.

2. Help preserve character of rural areas by prohibiting structures of "urban character" -- multifamily dwellings -- in rural areas.

Existing zoning reflects the City's policy that developments in rural areas should be of a different character than those in more developed sections. The ordinance, for example, prohibits multifamily structures in cluster developments in Rural Residential districts. This approach should be extended by eliminating other zoning provisions which allow "urban" type structures in Rural and Suburban Residential districts. Specifically, the City should prohibit Planned Unit Developments (PUD) in Rural Residential - 3 districts; prohibit multifamily dwellings in cluster developments in SR districts; and should prohibit multifamiy dwellings in PUDs in SR and RR districts. (Attached dwellings -- rowhouses and townhouses -- should be permitted.)

3. Promote flexible land development techniques and the preservation of open space by encouraging cluster development throughout the City, and PUDs in the core area, by reducing required minimum sizes of cluster tracts.

Cluster development, by allowing for flexibility in lot sizes, promotes open space preservation and development that is more sensitive to the natural characteristics of the land than does lot-by-lot subdivision. The Zoning ordinance, by requiring that cluster tracts contain a minimum of 12 acres, limits opportunities for these developments. The City should expand them by reducing the minimum size of a cluster tract to 3-5 acres.

PUDs could be beneficial in developed parts of the City by, for example, allowing mixed use of formerly institutional properties. These opportunities are severely limited now becaue of the minimum area requirements for PUDs of 50 acres in URA, 25 acres in URB and 5 acres in URC. The City should facilitate PUDs by reducing the minimum tract size to 3-5 acres throughout URA, URB and URC districts.

4. Strengthen existing measures for the protection of aquifer and watershed areas.

The City adopted a Water Supply Protection District in the fall of 1986 which established special regulations for development in the Roberts Meadow Watershed and in the portion of the aquifer which contributes to the two City wells.

This important step in protecting municipal water supplies should be completed in several respects. The City should adopt regulations requiring that existing development in the Water Supply Protection District connect to the public sewerage system; that commercial application of chemical fertilizers in aquifer areas be prohibited; and that all on site septic systems that are located outside the Water Supply Protection District be inspected and maintained annually. The latter provision would ensure the proper maintenance of septic systems throughout the City, including those located in the aquifer but not within the Water Supply Protection

district. Further, adequate maintenance of septic systems, wherever located, would reduce the need for eventual extension of the sewerage system.

5. Take a more active City role in preserving farmland by promoting the program with local farmers and contributing to the funding of farmland development rights purchase.

Zoning changes, while important in guiding development, will not be adquate to protect farmland from development. Stronger measures will be needed.

The Commonwealth has established the Agricultural Preservation Restriction Program to promote preservation of farmland. In this program, public funds are used to purchase farmland development rights, the value of which is defined as the difference between the market and farmland value of a property.

Up until the present, the program has been carried out entirely with state funds. Now, however, affected municipalities will have to participate in the funding. Thus, Northampton should make monetary contributions to protect additional farmland in the City. One source of funds would be proceeds from a land bank (see below).

In addition to providing funding, the City should target specific properties to be included in the program -- particularly in the Park Hill-Pine Grove area -- and should work

actively to encourage farmers to participate in the program.

6. Implement an open space program through acquisition of public open space, using funds from state and local sources.

Maximum use should be made of state funding programs, such as the Urban Self Help Program, and DEQE programs to acquire public open space and to make improvements to publicly owned lands for conservation and recreation. Special priority should be given to acquiring land within the aquifer protection district and around the City's surface water supplies located in other communities.

A land transfer tax should be established of approximately one percent to apply to all land and property sales, the proceeds of which should be set aside to purchase, protect and maintain public lands for conservation, open space and recreation. The "banking" of such public lands might also assure the avilability in the future of needed land for future public schools and associated recreation and playing fields. State legislation enabling such "land banks" at the local level should be encouraged.

7. Discourage suburban sprawl by maintaining the existing sewer service area, rather than extending municipal sewerage to rural areas.

Recognizing that sewer lines make suburban-level density development possible, the City should not extend sewer lines into rural areas. (One exception may be a line needed for the effluent from the landfill. This line should be designed to carry the effluent from the landfill only, without additional capacity for residential development.) Extension of the existing system should be made only to serve new growth areas at the edges of the core. In addition, sewerage may be needed along Route 10 south to promote industrial development.

8. Encourage replication of the traditional rural area land use pattern in which small villages contrast with open space, farmlands and rural development.

The City should provide for additional villages by creating Neighborhood Business districts in selected locations such as West Farms and near Northampton State Hospital. These areas, located at crossroads and already containing some development, are natural places for "convenience" type facilities such as small stores, branch libraries, etc.

9. Encourage the preservation of open space through incentives to maintain large, significant parcels of open land in cluster and PUD (Planned Unit Development) in Rural Residential and Rural Residential - 3 Acres districts.

All clusters and PUD developments must include permanently preserved open space. However, farmland, water resource areas and single, large tracts of open land can be more beneficial to the preservation of rural character and of open space than small open lots scattered throughout a development.

The City should encourage permanent preservation of farmland, aquifer areas and other meaningful tracts of open space, by allowing a density bonus (of 10-20 percent) for cluster and PUD's when such lands, including contiguous tracts of 20 acres or more, are dedicated as permanent open space. The bonus should apply only to cluster developments on tracts of 10 or more acres, and only when the City determines in its special permit review that the potentially dedicated sites are valuable ones for aquifer protection, open space, or other purposes.

Recommendations to Preserve the character of developed areas and to guide development to the core, its edges, and to Leeds Village

10. Adjust zoning requirements to conform to the existing development pattern by reducing core area minimum lot size requirements, and changing portions of Leeds Center to URB from URA

Residential zoning in the core is predominantly URB and URC,

except for small parts of the core zoned URA and RR north of Bridge Road, and an area zoned URA bordering Prospect Street. Lots of a minimum of 10,000 square feet are required in URB and URC districts; in URA districts, the minimum is 20,000 square feet.

The many existing lots in URB and URC districts below 10,000 square feet, and in URA districts, below 20,000 square feet, are nonconforming lots. Development of these nonconforming vacant lots and extensions of uses of single family homes on nonconforming lots would require variances.

If required minimums were reduced in URA, URB and URC districts, core area lots could be developed more readily; no longer would variances be required for the kinds of development traditionally done in the area. It is recommended that the zoning ordinance be amended to reduce required minimum lots in these districts by at least 10 percent, to 9,000 square feet in URB and URC districts, and to 18,000 square feet in URA districts. This step would make zoning requirements more consistent with the existing pattern.

Further, it is recommended that the zoning ordinance be amended to provide for special permits to allow development of a lot which is below the required minimum, when the average size of the lots adjacent to the lot in question, and the lots adjacent to those, is equal to or below that of the lot in question.

11. Encourage the development of traditional Northampton housing types, that is, two- and three-family dwellings.

The development of two- and three-family homes is currently prohibited in large areas of the City and is further restricted by a special permit requirement in zones where potentially allowed. In order to accommodate development in the core as is traditional, the City should allow two- and three-family dwellings, by right, throughout the core area and Leeds Village. Lot area and parking requirements would have to be met. Lot areas should reflect the district minimum requirements recmmended above, with 1,000 square feet required for each unit in addition to a single family one. Parking should be provided on site as the zoning ordinance now requires.

As noted, two- and three-family dwellings are scattered throughout all sections of the core and Leeds. The recommended step would facilitate the development of additional units in the core, and would legalize existing ones. Formerly illegal units would be placed on the tax roles, and would be subject to City inspection for health and safety.

Amendments should be made in the Definitions and Table of Use Regulations in the ordinance to:

- define two-family, three-family and semi-detached dwellings.

- permit two- and three-family dwellings, and semi-detached dwellings by right in URA, URB and URC districts.

- clarify the wording of the minimum lot size requirement for two- and three-family dwellings that the first unit require the basic (single family) lot, and each additional unit require 1,000 square feet.

- establish minimum lot size requirements for each unit of semi-detached dwellings at either the required minimum for two-family dwellings when the semi-detached dwelling is sited on a common lot, or one half the required minimum for a two-family dwelling for each unit when they are sited on individual lots. Institute a zero side set-back requirement at the attached sides of the dwelling.

12. Begin a systematic program to upgrade water lines in the core and in Leeds Village.

Dead-ended and undersized water lines should be systematically replaced so that existing water pressure and quality problems are eliminated. This measure is necessary to serve existing development; further, it will enable the water system to service additional residential development as it

occurs in the core and Leeds Village.

13. Provide areas for new development, and encourage the provision of middle income housing, by allowing a density bonus for development at outer edges of the core where development can be accommodated efficiently, when affordable housing is provided.

An essential element of the resource conservation strategy is to provide for new development in areas where it can be accommodated efficiently, at the same time restricting development in less suitable locales. Properties on the north side of Bridge Road and the east side of Haydenville Road are suitable development areas. Currently they are zoned Rural Residential and Suburban Residential. Another area well suited for development is the Memorial Complex portion of Northampton State Hospital. (The Main Complex is better suited for mixed use.)

The City should establish an overlay district -- "Rural Residential - Incentive" north of Bridge Road. In this new district, development would be permitted by special permit at greater densities than allowed in the underlying district, -- on the condition that a certain percentage of the units developed would be for low and moderate income persons. (See Map 7.1 for the general location of this district.) Allowed density should be up to 5 units per acre in the Bridge Road North area, if at least 33 percent of the units are affordable

to median income households and families and if 10 percent of the units are available to households and families with incomes less than 80 percent of the median income.

Development at the Memorial Complex portion of the Northampton State Hospital should be permitted at URC densities if these affordable housing targets are met. See Map 7.1 for recommended zoning of the Memorial and main complex portions of the Hospital site.

14. Establish a Design Review process to be applied to the Downtown Area.

The City should adopt a clear and understandable set of design criteria to apply to the Downtown Area, derived from a careful analysis of the basic qualities and characteristics of downtown architecture and urban design worth respecting and preserving, and establish a Special Permit - Design Approval Procedure that would require privately funded new construction (and substantial renovations and changes to existing buildings) to meet these basic design criteria. The Design Review Process would be activated by formally establishing a Downtown Design Review Overlay District encompassing the Downtown Historic District and adjacent areas having a visual impact on the District within the Overlay District. Approval for proposed projects with uses, densitites, etc., otherwise allowed, would be made subject to the issuance of a Special Permit - Design

Approval by the Planning Board. By municipal ordinance, a Downtown Design Review committee should be established and authorized to continue its function of reviewing publicly funded projects but also to review privately funded new construction and significant building alternations and renovations for conformity to the adopted design criteria. The Design Review Committee will advise the Planning Board as to whether the Special Permit - Design Approval should be granted or denied. In the process of reviewing proposed design plans, the Design Review Comittee would suggest to the applicant how the project could be changed in order to make the project conform to the ordinance.

Recommendations to encourage the type of residential development that is suitable for middle income Northampton Residents.

15. Encourage an increase in the supply of affordable homes for purchase and rental, by permitting two- and three-family dwellings in already developed areas.

See 11. above.

16. Permit the development of accessory apartments in single-family homes throughout the City.

Accessory apartments are an effective way of producing affordable rental units and of supplementing the income of

home owners, thus making home ownership affordable.

Zoning regulations can insure that their neighborhood impacts are minimal. Only one accessory apartment should be permitted in a single-family home. Accessory apartments can be defined in the ordinance as containing no more than 600 or 700 square feet; that they constitute no more than 25 percent of the useable floor area of the entire structure; and that in providing them, there be no change in the front facade of the structure. The parking requirement should be set at one space per accessory apartment. With clear standards in place, accessory apartments should be permitted by right.

In addition to amending the zoning ordinance to allow accessory apartments in single family dwellings, the City should declare a temporary amnesty for existing accessory apartments. During the period of the amnesty, the City would take no civil action against illegal conversions, provided that the units were inspected and found to be safe and in conformance with the building code, and are reported to the assessors.

17. Provide areas for the development of multifamily units -- traditionally an affordable housing type -- by incentives to increase permitted densities at the edges of the core; specifically, at the Memorial Complex portion of the Northampton State Hospital site.

See 13. above.

18. Allow two-family dwellings in rural areas of the City, as well as in the developed portions.

The City should allow conversions of single family dwellings to two-family dwellings, and new ones, in Rural and Suburban Residential districts, by right.

The minimum lot area for such developments should be one and one-half times that required in the district in which the project is located.

Recommendations to control the impacts of development

19. Require Site Plan Review for major projects, so that impacts of potential projects can be carefully defined and scrutinized.

Require site plan review under zoning (as form of special permit) for projects with potential major impacts such as on traffic, water consumption, etc. Developers would be required to submit complete information on site design, traffic generation, and use of infrastructure. Uses which typically have significant impacts, such as fast food restaurants, and all large scale industrial, commercial and residential projects should be subject to the requirement. "Large scale" can be defined in terms of square footage

(commercial and industrial projects) and numbers of units (residential projects).

20. Strengthen building and occupancy permit procedures by requiring comprehensive reviews by all affected City departments of building and occupancy permit applications for all new buildings.

The City should institute a requirement that all building projects seeking building and occupancy permits provide complete information for review by the Building Department, the Department of Public Works, and other affected agencies. The process should be coordinated by the Building Inspector, and should include plans, prepared by a registered professional engineer showing water and sewer tie in's, drainage, and access roads. (See Appendix 3 for sample forms.)

This procedure will be of critical importance to successfully accommodating core area development. Careful review of projects in this densely developed area by all departments is essential.

Recommendations to conserve the City's fiscal resources by controlling the costs to the City of new development.

21. Require that new development pay for a "fair share" of the public improvements it requires.

The City can use the special permit process to obtain information about the requirements of new development, and to negotiate with developers regarding in kind or dollar contributions. The recommended site plan review procedure will generate the information required to do this.

An alternative approach toward obtaining private developer funding would be a system of "linkages" or extractions, wherein developers would be assessed based on square footage, and the proceeds placed in an improvement fund. However, since the legal status of linkage payments is unclear at this point, negotiation seems the more practical course.

22. Provide a direct link between users of sewer service and the providers of the service by establishing the public sewerage system on a self-supporting basis.

The City should establish the sewerage system as a separate fund in the City's budget and accounting system. In this way, fees would be set to reflect true costs of delivering sewerage service, and fees collected would be allocated to the Sewer Department. Such is not the case at present. Sewer fees are now set by the City Council and do not accurately reflect, or cover, the cost of providing sewerage service.

Recommendations to regulate the pace of development

23. Regulate the pace of development by limiting the number of building permits that can be issued in one year.

The City can prevent major spurts in development activity by requiring that, when the City-wide rate of building permit issuance exceeds a stated maximum, new subdivisions be built according to a schedule which stretches the construction period over a period of years. By applying the limit to subdivisions, core area development would effectively be exempt from the limit.

Subdivisions which contain a minimum given percentage of low and middle income housing could be exempted from the scheduling requirement. Zoning could be "frozen" for the duration of the building period. (For an example, the regulation could state that when the rate of building permits exceeds an annual average of 160 units, new subdivisions of 10 units or more would be subject to a completion schedule of 40 percent in the first two years, and 10 percent in each subsequent year.) This recommendation will be an important way to alleviate public concerns that development is out of control.

The City Council, the Planning Board, the Board of Public Works, the Board of Health, the Board of Appeals, and other boards and departments will be involved in carrying out the recommendations

of the Strategic Plan for Resource Conservation. The Mayor's Strategic Planning Committee should take the lead responsibility for seeing that the recommendations are adopted and carried out.

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March, 1987

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INTRODUCTION

Northampton recognizes that future development is inevitable. However, the City is concerned that suburban residential development similar to the pattern of the recent past will destroy the City's character, fail to meet middle class housing needs, harm natural resources, and require new and costly public infrastructure. Attention focuses on residential development, and its location, type and form, compared with traditional patterns. Because of these concerns, the City undertook a Strategic Planning Project to evaluate alternative approaches to growth and to develop a plan for the future that maximizes the City-wide goals for natural resource protection, preservation of character, efficient provision of public services, and availability of housing for middle income groups. This report summarizes that plan.

In developing the plan, two requirements have been made clear. First, in grappling with issues of future growth, the City must recognize the reality of change. Change has been a constant in the City's past, and will continue to be so. The ability to gracefully adapt to change is one of the qualities which has made Northampton a highly successful city.

The second requirement -- related to the first -- is the need to balance individual interests with those of the City as a whole. To the extent that individuals perceive their own interests as opposing changes -- even small ones -- in their immediate environment, the larger interests of the City will be compromised. For example, if residents refuse to accept any additional development in their neighborhoods, development will be forced into rural areas. The result will be the loss of resources, such as farmland, which are significant to the City as a whole.

The Strategic Planning Project was supervised by a Cabinet Committee for Strategic Planning. This Committee, appointed by the Mayor and charged with the task of addressing "specific issues of zoning, infrastructure, public facilities planning, and other policy tools to respond to the increase of pressure for growth and development in Northampton" consisted of representatives of the City Council, the Planning Board, the Board of Public Works, Board of Health, Conservation Commission, and the Mayor. Lead staff for the Committee were the Directors of the Department of Public Works and the Office of Planning and Development. Members of the Committee are listed in Appendix 1. Lozano, White and Associates, Inc., and its subconsultant, Fay, Spofford & Thorndike, Inc. were consultants to the Committee.

Due to the importance of traffic issues for both the present and future of the City, the Strategic Planning project was supplemented by a companion study, Comprehensive Roadway Study, performed by Fay, Spofford & Thorndike, Inc.

1. THE ISSUE

Northampton has grown in the past; future development is likely. Tools now in place, such as the zoning ordinance, appear inadequate to meet expected pressures. The issue which faces the City now is how to accommodate future development in a way that conserves natural resources, the City's character, and its fiscal resources. Concern has risen because the pace of residential development in 1985 and 1986 far exceeded that of the recent past years.

1.1 Growth in the Recent Past

The recent past provides a clue to the future. Although population has been nearly stable over the past 25 years, there has been a steady increase in the number of housing units in the City. Table 1.1 shows that population grew by only 3 percent between 1960 and 1985, but the number of housing units increased by 31 percent. Local figures show that an annual average of 162 building permits were issued between 1970 and 1985.

Table 1.1

Population and Housing Units

1960 - 1985

	Population		Housing Units	
	Number	% Change, Previous Period	Number	% Change, Previous Period
1960	30,058		8,581	
1970	29,664	-1.3	8,941	4.2
1980	29,286	-1.3	10,571	18.2
1985	30,000 - 31,000 (est)	4.1	11,277	6.7

Sources: U.S. Census; Community Profile, Office of Planning and Development; Massachusetts Institute for Social and Economic Research.

The difference between rates of growth in population and in housing units is due to several factors. First, in the 1970's, a decline in the institutional population was offset by an increase in the resident population. Thus, while total population was stable, housing units were added to accommodate the new residents. Second, households became smaller (falling from an average of 2.8 to 2.5 persons per unit between 1970 and 1980, for example) resulting in additional units per given population. Finally, the age structure of the population changed. The number of persons in the 20-35-year-old range -- where the rate of household formation, and hence, the need for housing units is high -- increased dramatically.

For example, the 25-34 year-old group increased by 82 percent in Northampton, compared with 40 percent in the State as a whole. This increase reflects the attractiveness of Northampton for young people. Nationally, the 25-40 year-old age group is the fastest growing population segment. Given its proven attractiveness, Northampton can expect continued population increases in this age group, and hence, continued housing development.

Of particular note is a dramatic increase in building permits issued in 1985 and 1986. Due at least in part to recovery from economic stagnation of the early 1980s, building permits jumped from annual levels of 51 and 25 in 1980 and 1981, to 311 in 1985, and 318 in 1986. Whether or not this surge is a short term phenomenon or a new trend is too early to tell. However, it is safe to assume that new development will occur at not less than the levels of the past 25 years.

While past trends suggest development will continue, this need not be a concern per se. Of more significant concern are the trends in the character and location of development.

Development in the recent past is of a different character than is traditional in Northampton. The City has long had many small, owner-occupied two- and three-family houses. In 1960, for example, fully 30 percent of all housing units were in these structures. Scattered throughout the City's residential neighborhoods, and traditionally an important part of neighborhood charcter, these homes have provided opportunities for closely managed rental housing, and affordable home ownership. Because of the variety of housing -- in terms of prices, rent level and type -- people of relatively modest means have been able to live in the City.

Recently, however, two- and three-family houses have become a less significant part of the City's housing stock. By 1980, units in these structures comprised 28% of the total units. More significantly, as shown on Table 1.2, very little of the housing now being built is of this type -- only 7 percent of the units built between 1980 and 1986, were in two- - four-family dwellings. A key reason is that small multiple family dwellings are effectively prohibited by the current zoning ordinance.

Table 1.2

Composition of Housing Stock

1960 - 1980

Percent of total units

	1-family	2-3-4 family	5+ family
1960	55%	30%	15%
1980	49%	28%	23%
1980-86 units added	40%	7%	53%

Source: Northampton Office of Planning and Development.

As small multiples are declining in importance, large multifamily buildings have become more important. Table 1.2 shows that units in multifamily buildings comprised 23 percent of total units in 1980, up from 15 percent in 1960; they comprised 53 percent of all units added between 1980 and 1986. Some of these units were

in schools and other buildings converted for residential use; others were in new buidings.

The increase in multifamily dwellings will probably not continue, however. This is because 1) potentially convertible older buildings are in finite supply; most of the better opportunities have been taken; and 2), virtually all land zoned for multifamily has been developed.

Most developable land remaining in the City is zoned exclusively for single family housing. Thus, single family housing development will be the likely form in the future if no changes are made in the zoning ordinance. Recent trends indicate that the type of single family home being built is quite different from those of the past. First, prices are far higher than past levels, and far higher than most residents of the City can pay. New homes reportedly cost an average of $175,000, whereas a City resident earning the median family income of $29,000, could afford a home of $75,000. Second, new homes are consuming more open land than in the past. Traditional residential development in Northampton has been on small lots; in fact, the median size of single family residential lots in the City is only 14,000 - 14,999 square feet. Homes built in the recent past, however, have been on lots far larger. The average lot size in the 13 subdivisions approved by the Northampton Planning Board between 1980 and 1986 was 1.15 acres (50,000 square feet). Projects currently under Planning Board review have even larger lots, averaging 1.4 acres (62,000 square feet).

Not only is development changing in character and type, and consuming land at a higher rate than in the past, but it is spreading out into previously rural areas of the City. Specifically, the bulk of new residential development is taking place along Ryan, Burts Pit, and Westhampton Roads. This sprawled pattern is at odds with the City's tradition of concentrated development.

These trends toward larger, more expensive single-family homes, consuming rural land at an increasing rate, have raised concerns that Northampton will change dramatically if current growth and development policies continue.

1.2 Growth in the Future

How much future development should be planned for? What will be the likely rate of growth? Establishing these basic parameters is critical to evaluating alternative growth strategies.

Future Population Growth

The Massachusetts Institute for Social and Economic Research (MISER) at UMASS has been engaged by the Commonwealth to forecast population for all Massachusetts communities. The MISER forecast for Northampton, to be used here as the basis for estimating future development, is as follows:

Table 1.3

Forecast of Population

Year	Population
1985	31,000
1990	32,733
1995	35,001

Source: Massachusetts Institute for Social and Economic Research.

These projections can be compared with previously-made forecasts of population:

Table 1.4

Comparison of Population Forecasts

SOURCE: Metcalf & Eddy	Almer Huntley	PVPC*	Whitman & Howard	MISER
YEAR MADE: 1970	1980	1975	1974	1986
Forecast Year				
1985	32,500	27,000-29,000	33,500	33,000	29,808
1990	33,000	29,000-31,000	34,000	35,500	32,735
1995	34,000	30,000-33,000	35,000	37,000	35,000

* Pioneer Valley Planning Commission

(The Metcalf & Eddy forecast was made for the 1970 Comprehensive Plan; Almer Huntley's, for the Comprehensive Water Master Plan; and Whitman & Howard's, for the Comprehensive Sewer Plan).

The MISER forecast, based upon recent data and assumptions regarding migration, births, and deaths, places future population at a level about in the middle of the earlier forecasts. Its 1995 forecast is below the PVRPC and Whitman & Howard levels and above the Huntley and Metcalf & Eddy 1995 figures.

With the exception of the Huntley forecast, all the projections foresee population growth at far greater rates than in the recent past. For example, MISER's growth rate of 11.9 percent for the 1980's is far above the rates since 1950. In this sense, the forecasts are consistent with the recent upswing in building permits.

Table 1.5

Population Changes: Comparison of Past and Forecasted Rates

Decade	Percent Change
1940-50	17.2
1950-60	3.5
1960-70	- 0.1
1970-80	- 0.2
1980-90 (MISER forecast)	11.9

Population forecasts are always risky and should be used only to obtain a sense of the order of magnitude of future growth. Most forecasts are based on the assumption that past trends will continue, which may or may not be the case. National trends, such as in interest rates, can have major impacts on the City, but cannot be predicted.

Future Building Rate

With the above caveat that population forecasts should be used only as an indication of the future, not its precise course, the MISER forecast of future population growth can be used as the basis for an estimate on the amount of new residental development that will take place between 1985 and 1995. In addition to

population, the estimate of residential development will depend on the assumption made about the number of persons occupying each housing unit, or household size.

Average household size in Northampton became smaller during the 1970's, falling from 2.8 in 1970 to 2.5 in 1980, and was below the Hampshire County average. In the future, households in Northampton may continue to be relatively small. On the other hand, high housing prices could lead to larger households, as families "double up," children remain at home longer, etc. In this case, proportionately fewer new units would be built than in the past. Since the evidence is not yet available to discern a trend in household size, the Hampshire County average of 2.6 persons per household will be used here. Based on this figure and the MISER estimate of population growth, 1,920 new units would be added between 1985 and 1995, or some 192 units annually. The projected level is down from the 1985 and 1986 levels, but above the annual average of 162 units over the past 16 years. For purposes of this study, a range of 1,800 - 1,900 new units will be used as a working estimate of growth over the next 10 years.

1.3 Adequacy of Current Tools to Guide Future Growth

Recent development has caused concern because it is not consistent with Northampton's traditional character, and is taking place in previously rural areas. This is largely true because the current zoning ordinance permits no alternative. If the

City makes no changes in existing zoning policies, new development will be of very different character than in the past, and will take place in rural areas.

The current zoning ordinance was adopted in the mid 1970's. Adoption of the ordinance reflected dramatic changes in City development policy. Previously, most residential land throughout the City was zoned for lots of 15,000 square feet, and controls over commercial and industrial location were weak. The new ordinance increased lot sizes to 30,000 and 40,000 square feet in many areas, and made provision for high density development in and near the Florence-downtown core. It prevented extensive commercial strip development, and centralized retail and business activity in the downtown. Flood and watershed protection districts were imposed as well.

In the years since the 1975 ordinance was adopted, development took place in a way that provided a wide variety of types of housing, without widespread destruction of natural resource and rural areas. In the process, most developable land near the center was used up, as was land zoned for higher densities. The situation now is that new development is forced into the once rural parts of the City. Further, zoning in potentially developable areas requires lots far larger than are traditional in the City so that new development is different in character than in the past.

The Issue Summarized

In summary, new residential development can be expected in the City in the future. An average of 180-190 additional units per year is a reasonable number for planning purposes. Concern has arisen because new development seems different than is traditional in Northampton. Recent trends indicate that, if new development occurs under the provisions of existing zoning, remaining open land will disappear, and the City's character will change significantly. Thus, new ways to guide the future are needed so development can be accommodated without destroying the City's character.

2. GOALS OF THE CITY

Policies for accommodating future development should be carefully related to the City's goals. These goals reflect many diverse interests; no single goal should be pursued to the exclusion of others. Tradeoffs and compromise will be needed.

2.1 The Mayor's Task Force

The Mayor's Task Force on Land Use and Development formulated the following goals statement (taken verbatim from the Mayor's report):

GENERAL GOALS FOR LAND USE AND DEVELOPMENT

(Adopted November 25, 1985)

1. Improve the supply and affordability of housing and provide opportunities for a mixture of housing types -- including both rental and owner-occupied units -- so as to meet the needs of households with a range of incomes.

2. Increase the number of jobs, and the salary levels of jobs located in Northampton, so as to maintain and improve the opportunities that Northampton residents have to find suitable employment in Northampton. In particular, seek to cultivate employment opportunities to take advantage of the highly skilled and educated labor force in Northampton and surrounding communities.

3. Maintain a balance between new residential and commercial/industrial development.

4. Control the rate at which growth and development occur.

5. Channel development into areas where land is most suitable for development, and where municipal services can most readily and economically be provided.

6. Channel development away from watersheds and aquifers, and control development and land uses in these areas so as to protect Northampton's water supply.

7. Protect and maintain important environmental and natural resources, such as prime farmland, wetlands and habitat for wildlife, important scenic areas along the Connecticut River and Mill River, etc.

8. Preserve and maintain the City's unique architectural and historic resources, such as the Downtown Northampton Historic District, listed on the National Register of Historic Places. Integrate public and private improvements into the downtown area so as to complement the unique character and appearance of the area.

9. Strengthen and improve commercial development in clearly defined and established commercial centers -- Downtown, Florence Center, Pleasant Street, and King Street -- so as to

maintain the traditional structure and character of the community and so as to avoid the uncontrolled spread of commercial uses into residential areas and along roadways throughout the City.

10. Utilize and coordinate capital improvements to achieve land use and development goals.

The Mayor's Task Force on Land Use and Development, Final Report, February, 1986.

2.2 Conservation

A common thread runs through the goals expressed by the Mayor's Task Force and expressions of goals made by others at various meetings and discussions:

Conservation of natural resources
Conservation of the City's character
Conservation of fiscal resources

Conservation of natural resources. Natural resources must be protected. Among the important natural resources is the aquifer -- the source of supply for the two existing public wells, and potentially additional wells -- located southwest of the Bay

State section of the City. In addition, the Roberts Meadow watershed; flood plains of the Connecticut and Mill Rivers; wetlands; forests; and farmland must be protected.

Conservation of the City's character

The character of rural areas should be preserved -- wooded areas in the hilly western part of the City; farms in the Pine Grove-Park Hill Road area, Connecticut River floodplain and other sections; and large areas of open space which now have only minimal amounts of residential development.

The sharp contrast between rural areas and urban ones should be maintained. Farms and forests are within minutes of densely populated residential neighborhoods and the vital, highly urban downtown. Suburban sprawl in areas now open would destroy this contrast and should be avoided. Further, the distinctions between Leeds, Florence, and the Downtown should be maintained.

Traffic congestion should be minimized. As a small, self-contained city, Northampton has never experienced the widespread traffic congestion present in densely populated urban-suburban complexes. Traffic volumes on rural roads are low; congestion in the downtown is restricted to a few critical intersections.

The character of existing residential neighborhoods should be preserved; and new neighborhoods should replicate the older urban, rather than suburban, neighborhoods. Valued aspects of existing neighborhood character include small lots -- 70 percent

of the City's residential lots are less than 20,000 square feet --; and many small two and three-family dwellings dispersed among single family homes.

Another aspect of the character of existing neighborhoods is their ability to accommodate persons of varied income levels. The City has traditionally been a middle class community in which persons of moderate incomes could afford to own or rent homes and find nearby jobs. As noted, in today's terms, a middle class community means one with houses in the $75,000 price range. This is the level of home purchase price which, according to bank guidelines, an income of the Northampton median of $29,000 could support. A housing stock consisting of small multiples, houses on small lots and accessory apartments made middle class housing possible in the past. Unless development of these types of units continues, there is a danger that home prices will become so high that only wealthy people will be able to afford to live in the City.

Conservation of Fiscal Resources The cost to the City of infrastructure and public service needs generated by new development should be borne fairly and kept within the City's capacity to pay. Meeting this goal has several implications. New development should take place gradually, rather than in large spurts, in order to avoid sudden increases in the need for municipal facilities and services.

Further, new development should pay its fair share of the costs of the services it needs. With the levy limit of Proposition 2

1/2, the City must develop new ways of obtaining revenues from developers.

Municipal infrastructure should be used efficiently. This means that 1) existing systems should not be overtaxed; 2) the capacity of existing systems should be utilized before new capacity is added; and 3) additions to systems should be made in the least costly way, avoiding, for example, distant and hard-to-build areas.

Finally, the relationship between infrastructure policy -- especially the location of sewer lines -- and development policy should be consistent and complementary. In particular, services should not be extended to areas where development would be contrary to the City's goals for resource conservation.

2.3 Choices and Tradeoffs

Although the common thread of conservation links the City's various goals, diverse interests are reflected as well. The most obvious relate to at once conserving natural resources and providing middle class housing. Resolution of these possibly conflicting positions is possible through compromises and tradeoffs made for the benefit of the City as a whole. Natural resources, for example, could be preserved and, at the same time, new development could be accommodated, if development is directed away from resource areas and into developed ones. The result may be some physical change in existing neighborhoods, but not

necessarily change in character.

3. CONSTRAINTS AND OPPORTUNITIES

While goals should guide the City's approach to new development, the reality of existing conditions -- soils, natural features, infrastructure -- will also play a part. Existing conditions can suggest opportunities as well as limits.

3.1 Soils Conditions and Topography

In general, the portions of the City where soils conditions and topography are most favorable for development have already been developed; undeveloped portions of the City have less than ideal soils conditions.

Soil types in Northampton were mapped and classified according to their suitability for various types of land uses by the USDA Soil Conservation Service. A general review of this material shows that the outer portions of the City (south of Westhampton Road; west of Spring Street and Ryan Road; and North of Bridge Road) contain large areas of soils which are classified as unsuitable for development. Many of these areas have extensive ledge (as exposed bedrock), stoney soils and steep slopes; others are wet and poorly drained. In general, they are not suitable for on-site wells and septic systems; further, construction of water and sewer lines is costly. Although it is possible to develop under these conditions, the process of development -- including the construction of roads and utilities -- would be expensive.

Topography of the outer, undeveloped areas poses difficulties for development as well, particularly in the western hills. In the Mineral Hills and Sawmill Hills, elevations rise to 800-1,000 feet. These are in contrast to the 300-400 foot elevations of the hills (Baker, VA Hospital, Northampton State Hospital) in the developed part of the City.

Providing municipal utility services and building roads in these conditions would be costly. Pumping stations would be required if these locales ultimately required public water and sewer service.

The significance of these soils and topographic conditions for future development is that in the outer fringe areas of the City

* public sewerage will be necessary, if densities are to be greater than one unit per two to three acres;

* extension of sewer service will be expensive; and

* if not sewered, densities will have to be low -- averaging not more than one unit per two to three acres in order to properly locate water supply wells and septic systems on the same lot.

3.2 Other Natural Features

An aquifer is located in the southwest portion of the City, and supplies the two public water supply wells. Areas over this aquifer have been developed for residential and industrial use. As is typical of the City-wide pattern, residential densities are higher than the 20,000 square foot minimum which zoning requires in the area. For example, in the general area of Westhampton Road - Burts Pit Road-Florence Road - Ryan Road -- where the aquifer is located -- half of the single family homes zoned URA are located on lots of less than 15,000 square feet.

There is some evidence that existing development has already affected the aquifer by depleting ground water resources. Several marshes and ponds have dried up over the past few years, probably due to channeling of runoff away from the area. This indicates that depletion of ground water resources may be occurring.

Because the type and density of development which already exists in the aquifer recharge area may be inappropriate, special aquifer protection measures are essential to protect groundwater quality. In addition to the recently adopted aquifer protection zone, the City's Board of Health should adopt regulations to require septic system maintenance and to prohibit commercial lawn fertilizing operations. This can be done by municipal ordinance.

The watershed of the Roberts Meadow Reservoir is located in the Northwest quadrant of the City. Now a secondary source of water supply, the Reservoir may become more important in the future. If the watershed were developed, the quality of water in the reservoir would be vulnerable to pollution from on-site septic systems. Protection measures similar to those recommended for the aquifer should be adopted.

Farmland has traditionally been an important land use in Northampton. In 1980, crop and pasture land totalled 3,500 acres and comprised 15 percent of land in the City. However, according to a recent survey (Preserving Farmland in Northampton, USDA Soil Conservation Service, 1984) some 390 acres of farmland were lost between 1971 and 1980.

The major farm land areas are located in the "Meadows" -- the flood plains of the Connecticut River; along the Mill River; in the Park Hill area; and in Roberts Meadow. Other farms are scattered about the City, including Northampton State Hospital, North Farms, and other areas.

The most important farm area is the Meadows. Farms here are unlikely to be developed because they are protected by Special Conservancy Zoning. Primarily designed to protect against flooding, development is allowed by special permit. Building is permitted only when the basement or lowest floor is at or above the 100-year flood elevation and when there is no grading or filling without compensatory floor storage capacity. This provision has effectively discouraged development.

Unfortunately, this special conservancy zoning can legally be applied only to land located within the floodplain. Legal rulings received to date indicate that special conservancy zoning cannot be applied to restrict development of land not located in the floorplain.

The second major farm area is the Park Hill section, which contains 380 acres of farmland. It is far more vulnerable to development than is the Meadows. No special measures protect these farms from development, with the exception of one 80-acre farm protected under the state's Agricultural Preservation Restriction program.

3.3 THE MUNICIPAL WATER SYSTEM

An adequate supply of high quality water is a basic requirement for the future. Future development policies must recognize this requirement. Further, new development should be guided so that the municipal water system is used efficiently.

The City has ample water resources to serve existing and future development. The issues regarding water and its relationships to future development include: the quality of municipal water, the future development of water supply resources, and the water distribution system.

3.3.1 The Supply System

Portions of the following description of Northampton's municipal water supply system are summarized from the Almer Huntley, Jr. & Associates, Inc. (AHA) comprehensive water study report of 1981.

Northampton now supplies an average of 4.2 million gallons per day (MGD) of water. The system consists of four separate sources of water supply; two of these sources are surface supplies (reservoirs): the other two are groundwater supplies (wells). The main source of supply, upon which the Water Department relies for nearly 90% of its total needs, is the Mountain Street-West Whately complex which is comprised of three separate impoundments located within two distinct watersheds.

Mountain Street - West Whately Complex

The West Whately portion of the system (located in the Town of Whately), consists of a small lower intake reservoir (the original West Whately impoundment) and an upper collection reservoir (now known as the Francis P. Ryan Reservoir). Together, they provide the major portion of the safe yield for the entire complex. A 20-inch diameter diversion pipeline is used to transfer water to the West Whately facilities, located within another drainage area. A portion (2,000 feet) of this diversion is an open channel, which runs along Haydenville Road.

The Mountain Street Reservoir, located in the Town of Williamsburg, has served for many years as the major source of

supply for the entire Northampton water system. Water is transfered from the Mountain Street Reservoir to the City's distribution system via a four mile long, 20-inch diameter transmission pipeline, which terminates at the City's chlorinating facility on Water Street in the Village of Leeds. As noted above, the hydraulic gradient for the entire Northampton water system is dependent upon a combination of the water level in the Mountain Street Reservoir and friction losses in the lengthy 20" transmission main which transports water to the City's water distribution network.

Roberts Meadow

The Leeds, or Roberts Meadow Reservoir complex, located in the northwest quadrant of the City, consists of a small upper storage component and a much larger middle dam and reservoir.

The water of the Roberts Meadow Reservoir is of generally poor quality, primarily due to runoff from an upstream farm in Westhampton. Thus the water from this reservoir must be filtered. Because of this, and its relatively low spillway elevation (USGS 402), the Roberts Meadow system has only been used for backup service since the construction of the Mountain Street reservoir.

Public Wells

The City's two groundwater supplies are located near the Ryan Road-Spring Street intersection, within 1800 feet of each other,

and draw their supply from the aquifer described in the previous sections. Both wells, located east of Clark Street, were constructed in 1950 and have rated capacities of 1.0 mgd. While the 2.0 MGD of supply provided by these sources was a welcome addition to the City's water supply network, the main purpose for their installation was to bolster in-City water pressures. Pump tests conducted in 1981 by AHA confirmed the two wells are capable of producing a safe yield of 2.0 MGD.

3.3.2 Water Quality

Quality of Existing Supplies

As part of the comprehensive water study, AHA performed a thorough water quality analysis of Northampton's water sources. The water samples were obtained and tested in May, 1981. Tests were conducted using Commonwealth of Massachusetts drinking water quality standards as parameters.

The testing results showed that the only state parameters which were exceeded were (1) the color at the Robert Meadow reservoir, (2) manganese in the West Whately intake reservoir, and (3) iron in the Roberts Meadow reservoir. None of the three exceeded parameters presents any known potential health hazard. Rather, any objections are aesthetic in intent. Excessive iron or manganese can produce discoloration of household fixtures and laundry,

and color gives an undesirable appearance to the water.

Testing results showed that the water from the two municipal wells is slightly acidic. The water samples had pH readings which ranged from 6.0 to 7.0 with an average value of about 6.7. (A pH reading of 7.0 is neutral; readings below 7.0 are acidic, and readings above 7.0 are alkaline.) Since the wells furnish only 15 percent of the total water needs of the community, the slight acidity of the water is diluted and presents little concern. If the wells contributed substantially more water to the system, the acidic condition would be of concern.

Finally, AHA reported frequent complaints of poor water quality in the spring and summer are due to conditions in the Mountain Street Reservoir. Complaints of poor taste and color are common with surface reservoirs and relate to algae growth. The algae growth is, in itself, not the problem, but when large populations of algae die and are allowed to accumulate in the water distribution system, objectionable tastes and odors are noticeable.

The West Whately - Mountain Street complex was found to have a consistently high quality but may require filtration in the future to remove algae. AHA recommended for the present, a program of water main flushing, reduced usage of the Mountain Street source in the spring and summer months and a careful use of copper sulfate in the reservoir to control algae growth.

Water Quality Issues

As noted, the Northampton municipal water system consists of two reservoir systems (the Francis P. Ryan-Mountain Street System and the Roberts Meadow Reservoir) and two municipal wells. The most significant water quality issues relate to the two major sources: the Francis P. Ryan-Mountain Street system, and the two wells.

One of thse issues relates to the fact that both the Francis P. Ryan and Mountain Street reservoirs are not in the City but are located in Williamsburg and Whately, respectively. While the City owns the reservoirs, it does not own the watersheds which contribute to them, and thus has no guarantee that the watersheds will be adequately protected by the two communities.

Thus far, these watershed areas have remained rural; prospects for intensive development seem remote since they are far from developed areas and are served by only a single road (Mountain Street). However, since the municipal water supply is so dependent upon these reservoirs, the City should seek cooperative arrangements with both Williamsburg and Whately regarding road maintenance (roadsalt application) and land use in the watershed areas. For example, the City might agree to sell water to these communities at favorable rates in return for Town efforts to protect the watersheds, or to provide service such as fire protection or planning and zoning aid.

A second water quality concern is the open channel leading from the Francis P. Ryan reservoir to the Mountain Street reservoir.

Haydenville Road runs adjacent to this channel. A pipeline should be completed to replace the open channel and protect the quality of the water.

While the Francis P. Ryan - Mountain Street system currently provides the great majority of the City's water, protection of the other sources is an important need, particularly since the major surface water reservoirs are outside the City's borders.

Although Roberts Meadow Reservoir is currently used only as a backup, it may be needed as a more significant source in the future. The AHA report estimates the safe yield of this supply at 2 mgd, and for emergency or short term uses, at 3 mgd. Protection of the watershed which contributes to this reservoir is therefore an important need.

The recently adopted Aquifer and Watershed Protection District will help in this regard. This measure establishes an overlay water supply protection district, and within it, prohibits certain uses which are harmful to ground water resources, such as underground storage of oil and gas, truck and bus terminals, and other uses; restricts other uses, such as above-ground storage of petroleum products; and requires a form of site plan review for business and industrial uses. However, these regulations may not be sufficient. Additional measures are needed to protect the quality of surface water runoff entering the reservoir, to insure that septic systems are adequately maintained and to prevent use of chemical fertilizers.

As noted, groundwater resources, both those used currently and those potentially tapped in the future, are located in the general area west, south and north of the Ryan Road-Spring Street-Florence Road intersection. That portion of the acquifer which directly contributes to the two existing City wells has recently been mapped through a hydrological study conducted for the City by Professor Ward Motts of U. Mass; drilling is underway to delineate the locations of the primary and secondary zones of contribution to those wells. In addition to the contributory zones, the Mill River contributes significantly to the acquifer.

Given the potential importance of local ground and surface water, the City should take steps to protect its quality. The most immediate need is to protect the watershed and the zones of recharge contribution to the existing wells; the longer term need is to protect potential water sources by protecting the entire aquifer as much as possible.

As noted, damage to groundwater resources can occur through pollution (such as from leakage of underground storage tanks, or surface runoff) and from insufficient recharge. Existing land uses within the aquifer are such that damage may be occurring, or could potentially occur. Much of the land area above the aquifer in Florence bordering Ryan Road is developed; that area is the fastest growing portion of the City. Most existing and potential development is residential although industrial development exists in the older "Pro Brush" complex. In already-developed residential areas, the density of development is relatively high; almost half (47 percent) of the developed lots in

the portion of the area zoned URA are less than 15,000 square feet in size.

Although these areas are served by public sewerage so that pollution from poorly functioning septic systems or industrial waste is not a major problem, other problems exist. Some households have not connected to the sewerage system. Runoff from parking lots (both industrial and residential); leaking of corroded underground gas or oil tanks; and application of chemical fertilizers to lawns, are among potential sources of pollution. Not only may contamination of the aquifer be occurring; reduced recharge caused by impervious surfaces (buildings and paved areas) and drainage away from the acquifer may be causing depletion of groundwater supplies. Another potential pollution source is industrial and other development to the north along the Mill River, including the older complexes in Leeds.

As new residential development occurs in the southern and western parts of the City, the potential for water quality problems increases. These problems include increases in impervious surfaces and failure to contain drainage on site, both of which could cause groundwater depletion; pollution from chemical fertilizer application; and pollution from septic systems failures.

Because of the importance of the City's wells now as pressure equalizers in the overall system, and the potential future need to develop additional groundwater resources, protection of both the areas immediately around the wells and the entire aquifer is essential.

Since considerable development in these areas already exists, simply increasing required minimum lot sizes, as has recently been done with adoption of the Acquifer and Watershed Protection Ordinance, will not be sufficient -- although this step is important. In addition, the City should adopt and enforce measures to regulate land uses and activities in the aquifer area which might affect the aquifer, and should carefully monitor activities upstream along the Mill River and enforce existing regulations for wetlands protection.

3.3.3 Future Water Supply

As noted, Northampton's potential water resources are ample. The needs are to 1) protect them, and 2) develop them further.

The following table shows water usage in the recent past, and shows that average daily consumption increased from 3.2 MBD in 1976 to 4.3 MBD in 1985, an increase of about 31 percent. Population remained relatively stable during that period, however, indicating that per capita consumption increased, and/or industrial water use increased.

For the immediate future -- i.e., to 1995 -- the City's water supply appears adequate. The AHA study reported that with existing water supplies, the City has a useable accumulated safe yield of 7.5 MGD inclusive of the City's two wells, but not including the Leeds Reservoir complex.

Table 3.1

WATER CONSUMPTION

Year	Average Daily Use (MGD)	Peak Day Use (MGD)
1976	3.219	4.810
1977	3.447	4.445
1978	3.397	4.549
1979	3.651	5.017
1980	3.628	5.299
1981	3.703	4.871
1982	3.842	5.154
1983	3.969	5.280
1984	3.996	5.999
1985	4.268	5.176
1986	4.068	5.332

Source: City Water Department

If the population grows to 35,000 by 1995 as suggested in the previous section, and if per capita water consumption of the additional population averages 125 gpd, approximately 625,000 gpd of additional water would be needed. Peak daily consumption would remain below the 7.5 mgd safe yield of the water system.

The AHA report addressed the adequacy of longer range water supplies, and estimated that demand in the year 2020 would be 5.5 mgd. AHA based its estimates on a projected year 2020 population of 35,000. As noted, a population estimate of 35,000 is being used by this study for the year 1995. Thus, water demand will grow more rapidly than estimated by the AHA report. The City should interpret its recent and expected growth in population and water needs as an indication of the importance of long range planning to increase the capacity of the municipal water system.

The AHA report provides some direction for long range capacity increases, recommending development of additional groundwater resources and regular use of the Roberts Meadow Reservoir. The report was less clear however about actual feasibility of groundwater development, pointing out that the two potential locations identified had serious limitations. One location, Maine's Field, is in a highly developed area; a second location, near Glendale Road, is close to the landfill.

Needed now is a more clearly directed approach to long range planning. Two approaches are suggested:

1. Identification and evaluation of groundwater resource poten-

tial, and protection through land use and other regulations, (See above.).

2. Development of surface water resources. The thrust of this planning should be to take advantage of the altitude of the Francis P. Ryan Reservoir relative to the City's pumping station.

In the current system, the pressure gradient in the Francis P. Ryan Reservoir is lost to the system when it enters the Mountain Street Reservoir. This pressure could be recovered by constructing a pipe line connecting the Francis P. Ryan Reservoir with the pipe south of the Mountain Street reservoir which leads to the treatment plant, or by a pipe leading directly from the Francis P. Ryan Reservoir to the treatment plant.

3.3.4 The Water Distribution System

The City's water distribution system is plagued with inadequate pressure in many areas. Insufficient pressure gradients, dead-ended pipes, and undersized pipes, are among the causes. These system-wide deficiencies must be corrected, no matter what the level of future development.

Steps are already underway in this regard. Two new standpipes -- one at West Farms, another at North Farms -- are being constructed. These are expected to alleviate many of the major problems. In addition, a computerized testing program of the water mains is to begin shortly, which will identify problems and

help set priorities for a systematic water main replacement program.

It is important to emphasize that these problems have to be addressed to remedy problems which affect existing development, not to accommodate future development. As the problems are addressed, however, the distribution system will be able to accommodate additional users. In fact, the distribution system between Florence and the Downtown will be able to serve an increased residential demand of approximately 20 percent, as the needed improvements are made.

Engineering analysis of the existing system, performed for this study, found that water mains which lead into the core from the treatment plant in Leeds have adequate capacity to serve a 20 percent increase in demand. However, the distribution system within the core is inadequate to serve even the level of current development. Several core area pressure problems exist, and numerous undersized and "deadend" lines cause pressure inadequacies and quality problems. These problems must be -- and are being -- addressed to meet current needs. As they are addressed, the core should be able to serve existing development well, and in addition, to accommodate additional demand.

In many parts of the downtown core area, the existing water system is apparently adequate to handle the present development insofar as quantity of water and water pressures are concerned. New water lines have recently been constructed; all main distribution lines are reportedly in good condition. For

example, water pressure in the center of the downtown core area at Main Street is as high as 100 to 120 PSI during the hours after midnight, and averages about 100 PSI during the working day. In the vicinity of Route 5 the daytime water pressure is 40 to 60 PSI, which appears adequate. The easterly portion of the downtown core area is reported by City officials to have adequate pressure to accommodate existing and some future development.

Pressure conditions in the west portion of the downtown area is noted as "borderline." On peak days of water usage, the water pressure drops noticeably. The two new standpipes should eliminate this problem. Hydrant pressure tests are being conducted by the City in this area to evaluate its ability to accommodate any potential development and to determine priority improvement areas.

Many of the water mains in the downtown core area are considered undersized by today's standards. Approximately 50 percent of the water mains are six inches or less in size. Today's standards dictate a minimum of 8-inch mains. A systematic program to replace these lines is needed.

City officials note that there are times, especially during the summer months, when water quality problems are experienced. This is due to the many dead-ends and undersized mains. Water in these mains stagnates and may cause discoloration and odors. Hydrant flushing, in which sediment is flushed out of the dead-end lines, produces flows through the dead-end water lines and is an effective remedy to these problems. The City's Department of

Public works has instituted such a program.

Thus, existing pressure and water quality problems need to be addressed to meet today's needs. Generally it appears that the existing water distribution system in the core can support 20 percent additional development consisting of individual residences and small isolated businesses with low water requirements. A large development or business complex which requires large amounts of water should receive individual study of water requirements and impacts on the water system. Very likely, such developments could be accommodated if undersized water mains were replaced with new, properly sized water ones without serious effect on the water distribution system as a whole.

While improvements are needed to serve existing development in the core, the water system is considered adequate to serve existing development in outer areas. However, if more development occurs in locales such as Westhampton Road, West Farms Road, and the Park Hill area, the 8-inch mains in these areas will have to be replaced with larger capacity mains. If new development occurs west of Glendale, West Farms and Sylvester Roads -- areas which are not now served by the municipal water system -- the City would have to extend the system. Thus, new development in outer areas would necessitate improvements which would not otherwise be necessary. Map 3.2 shows the general location where improvements would be needed in outer areas if development occurs.

Map 3.2

Municipal Water Distribution System

3.4 THE MUNICIPAL SEWERAGE SYSTEM

The City of Northampton has an extensive system of collection and interceptor sanitary sewers, as well as an up-to-date wastewater treatment facility. Appoximately 85 percent of the City's population of 30,000 is served by the municipal sewer system. A small portion of the Town of Williamsburg is also tied into the system.

The wastewater treatment facility is located off Route 5 at Route I-91 in the southeasterly part of the City. The plant provides secondary treatment with treated effluent discharged into the Connecticut River. Sewage sludge is disposed of at the City's landfill site at a former gravel pit off Glendale Road south of Route 66.

The treatment plant was recently enlarged with Federal and State aid and now has a capacity of 8.9 million gallons per day (MGD). Present dry weather flows average about 4.5 MGD. However, the pollution loadings into the plant are approaching the maximum for which the plant was designed to handle. The high level of pollutants in the wastewater is caused by various industrial firms discharging strong wastes.

This matter of heavy biological loadings at the treatment plant due to a few industrial users is being addressed by the City. A plan for pretreatment of the stronger wastes has been developed, although it has not yet been implemented. This approach, wherein

industrial users who require pretreatment would pay for it, is the proper one. The pretreatment works can be sited either at each individual industrial site, or at the municipal works, depending on the results of wastewater tests of each industrial user. A formula has been developed for charges for the pollutant strength of the wastewater generated as well as for quantity. The strength surcharge to be added to the ordinary sewer user charge should be put into force as soon as practicable, since it will probably accelerate construction of the needed industrial pre-treatment works.

An essential requirement for the pretreatment program, and other sewerage programs, is that the sewer department be made self-supporting, as the Water Department already has been. Fees for sewerage use should be placed in a fund dedicated for use by the Sewer Department only.

The plant is efficiently operated by the City with only very rare violations of its discharge permit. Occasional odor problems in the past have been corrected.

3.4.1 Capacity of the Treatment Plant

The existing sewer plant has a design capacity of 8.9 million gallons per day (MGD). Current flows are about 4.5 MGD, with the current sewered population of approximately 30,000. Based on today's waste water generation flows, the plant could support a population of some 50,000, and will thus be adequate into the next century.

3.4.2 Extension of the Sewer Service Area

In 1974 the engineering firm of Whitman & Howard, Inc. completed a comprehensive study and report which dealt with the City's future sewerage system needs. Recommendations were made for new interceptor sewers as well as treatment plant improvements, sewer system rehabilitation to reduce infiltration of extraneous water, and removal of storm water connections. The report also included a sewer system layout for service to all unsewered parts of the City, including remote, sparsely developed areas. It was the general accepted practice when the report was done to include the entire community in the potential sewer service area.

Many of the Whitman & Howard recommendations have since been implemented by the City. Among these have been increased treatment plant capacity, replacement and repairs to major intercepting sewers, and major sewer system separation work to remove storm water from the sanitary system in order to reduce wet weather flows to the treatment plant.

Implementation of the plan to extend sewer service to outlying areas of the City appears to be both impractical and unnecessary. Not only would farmland and water resource areas be made more readily developable in an area where development should be avoided, but the approach would be extremely costly and serve only a few homes. The cost to construct sewers to remote areas of the City, completely implementing the Whitman & Howard report, would be in the range of about $15,000,000, using present day

prices. This high cost could only be assumed by sharply raising sewer use fills throughout the City. Further, the existing sewerage system serving the area between Florence and the downtown, in general, has adequate capacity to serve an additional 20 percent of demand, assuming new demand stems from residential use. Rather than extending service to outlying areas, a more efficient approach would be to accommodate as much new demand as ossible where service exists already. (See Map 3.2 Sewer Service Area.)

More specifically, the trunk lines and collector sewers leading from the core to the sewer plant have excess capacity so they can serve more development, and local sewers are generally in good condition and adequately sized to accommodate additional users. Reportedly, sewer infiltration and inflow in the downtown area sewerage system is not a serious problem because of recent sewer system rehabilitation work.

Only a few sewerage system deficiencies still exist in the downtown area. One is a badly deteriorated section of 8-inch clay sewer in Elm Street from Riverside Drive to Federal Street. This improvement has already been designed, and the City has approved funds for its construction.

A second sewer line which needs to be rehabilitated is the 8-inch sewer in Pomeroy Terrace. This sewer is old and is badly deteriorated. Since the sewer is very deep, relining is the best approach. If structural problems made this impossible, replacement will be required.

Map 3.3.

Sewer Served Area

With these few exceptions, generally the sewers in the downtown core area are of adequate capacity to handle existing wastewater flows, and could handle future wastewater generated by smaller, individual residences or businesses with relatively low wastewater producing potential. Any proposed larger residential or business/commercial complex -- such as projects with 20 or more acres -- would require investigations on a case-by-case basis. Each new development should be required to perform a detailed analysis of all downstream sewerage facilities which would be impacted to determine if there is adequate capacity to handle the planned increase in flows.

In general, all areas of the City with a high priority for sanitary sewer service are presently served with one possible exception. This is a small neighborhood known as Laurel Park, a privately-owned development of 111 homes, located at the northeast corner of the City. City officials report that on-site septic systems in this area are malfunctining. If this neighborhood is to be sewered, a funding mechanism, which may include state grants and betterment assessments upon the owner of the complex, must be established. A consulting engineering firm is completing a study of the alternative schemes for a City tie-in versus a local community treatment plant.

Given the costs and development impacts of full implementation of the Whitman and Howard Report, further sewer extensions in the City should be considered on a case-by-case basis, to serve only a particular proposed residential, commercial or industrial

development. In these particular cases, it may be possible to have the developer fund the necessary sewer extensions. For each new sewer system extension a detailed analysis should be made of the capacity of all downstream sewerage facilities to assure adequate capacity to handle the planned increase in flow.

Conditions vary regarding the need for new sewerage facilities in the growth areas of the City. One such area is along Bridge Road where about 40 house lots are in the process of being built or approved. The existing 8-inch sewer in this area would serve the planned development; evaluation of the adequacy of this line is being done at present. Ninety housing units are being built south of Bridge Road immediately west of St. Mary's Cemetary for occupancy in fall, 1987. The existing 12-inch diameter sewer may need expansion or improvement.

Another area which is experiencing residential growth is north of Route 66 (Westhampton Road). Several single family housing developments are in the process of being constructed in this area, and other developments are planned. These homes depend upon on-site septic systems. An eventual tie-in to the City's sewer system would require a connection to an existing 8-inch sewer. However, this sewer may not be adequate to handle sewage flows from all the areas to be developed along Westhampton Road; the City may need to replace it if development continues in this area.

An area of the City currently under study for a possible industrial park is the section of Route 10 (Easthampton Road)

lying between the Mill River Diversion and the Easthampton Town Line. Most of the develoment is planned along the westerly side of the roadway despite the fact that it is quite hilly. Much of the area can be sewered by means of gravity sewers, but if development extends to the Easthampton line, a pumping station will be needed. The connection to the City's system will require crossing the Mill River Diversion, which can be accomplished by means of an inverted siphon under the waterway, or by means of a pumping station with a force main sewer supported by the Route 10 bridge over the waterway.

4. DEVELOPMENT ALTERNATIVES

Northampton's goals for the future emphasize conservation -- conservation of natural resources, character and fiscal resources. As pointed out above, soils and topography present constraints to development of outer rural areas; natural features such as farmland and the aquifer are threatened by development. Sufficient capacity exists in the municipal sewerage plant and in the water supply to accommodate new development. Existing water and sewer lines can service additional development; however, upgrading and extensions will be needed if new development extends beyond existing service areas. (Map 3.1 shows the location of open spaces and other natural features where conservation is appropriate. Maps 3.2 and 3.3 show existing water distribution and sewer service areas, in which development could be accommodated.)

Below, three alternative policy choices for directing new development are presented. These alternatives range from widely spread out to highly concentrated development. The alternatives portray "extremes" -- that is, development is exclusively of one pattern, or exclusively another --, set forth to illustrate choices and consequences. The actual course of development will not follow such an extreme pattern, but instead will be weighted toward the alternative which the City selects.

4.1 Suburbanization

One alternative for accommodating new development is to continue the present pattern implied by the current zoning ordinance. Current zoning dictates that new development follow a distinctly suburban pattern, because as noted previously, most of the remaining open, developable land in the City is zoned for one-acre or 30,000 square foot lots -- a typical suburban density.

Further, most developable land is located in the outer south, west and in northern borders of the City, as shown by Table 4.1 (See Map 4.1 for the location of these areas, grouped by assessor's sheet designations. Specifically, over half the City's 730 developable lots are at the City's southwest and northwestern borders; in the Ryan Road - Westhampton Road area and at the northeast and northern borders. Far more than half the developable acreage is in these areas, as indicated by the relatively large median lot sizes. These areas are predominantly zoned Rural Residential (RR), and require the typical suburban minimum lot of 40,000 square feet.

If new growth took place under the suburbanization alternative -- as current zoning requires -- , the outer fringe and the Ryan-Westhampton Road area would become suburbanized.

TABLE 4.1. VACANT, DEVELOPABLE LOTS

Area and Assessor Sheet #	Number of Developable/Potentially Developable Lots	Median Lot Size*
Spring St., Leeds	19	1.5-1.9 A
15B, 16A, 16C, 16D, 24B	9	11.0-11.9SF
Leeds Center	20	25.0-29.9SF
10B, 10D, 11A, 11C	11	8.0-8.99SF
Westhampton Road	238	1.0-1.49A
22A, C and D; 28, 39, 30A, 30C, 35, 36, 37, 42, 43, 44	27	1.0-1.49A
Florence	8	8.0-8.99SF
17C, 23A	5	Less than 8.0SF
Bay State	38	25.0-29.9SF
23C, 23D, 30B	15	8.0-8.99 SF
Bridge Road	80	9.0-9.9SF
12C, 16B, 17A, B and D, 18A, B and C, 24A	15	20.0-24.9SF
Elm St.	15	Less than 8.0SF
31A, 31B, 24C, 24D	6	8.0-8.9SF
Downtown	31	Less than 8.0SF
25A, 25C, 32A, 32C	9	8.0-8.99SF
Outer fringe, SW quadrant	8	5-5.9A
27,34,41, 48, 49, 50	3	2-2.9A
Outer fringe, NW quadrant	28	1.5-1.99A
4, 5, 9, 10A, 10C, 14, 15A, 15C, 15D, 20, 21	11	16.0-17.99A
North St.	13	Less than 8.0SF
25A, 19	3	10-10.99SF
State Hospital Area	3	Less than 8.0SF
30D, 31C, 31D		
Locust St.	19	9-9.9SF
23B, 24A, 24B, 18D	2	15.0-19.9SF

Table 4.1, Continued.

Area and Assessor Sheet #	Developable/ Potentially Developable Lots	Median Lot Size*
Outer fringe, NE quadrant	28	30-39.9SF
2,3,7,8, 12A, B and D, 13	18	5.0-5.9A
Outer fringe, North-Center	8	1-1.49A
1,6	7	3-3.99A
South Street	30	9.0-9.99SF
38	3	Less than 8.0SF

Source: Northampton Assesor's Office.

4.2 Moratorium or Growth Reduction

A second alternative for accommodating residential growth is to attempt to slow or stop development.

A moratorium, the most direct way of attempting to stop development, has proven popular in many communities. Moratoria are appealing because they indicate that "something is being done."

However, in many instances they are not effective in reducing growth. Moratoriums by law can only be temporary --in place for one or two years. Thus, they are not a permanent solution to the issue of accommodating growth. In many instances a development boom takes place before and after the moratorium, so that the net result is not less development, but perhaps even more than would have occurred without the measure. Further, once the moratorium is lifted, unless changes are made in zoning and other policy, development occurs according to the past pattern, which the community presumably found unsatisfactory.

Another approach to reducing development would be to increase minimum required lot sizes. Rural Residential lot size requirements for example could be increased to a two - or three-acre minimum; requirements in Suburban Residential could be increased to 60,000 square feet.

The result -- unless coupled with other policies to enable new development in other areas -- would be to be to increase suburba-

Map 4.1

Assessor's Sheet

Identification

nization of rural areas, but not to reduce the amount of growth. Development would still take place; the only difference would be that lots would be larger. The only instance in which an increase in lot sizes would result in less growth would be when developable land is in highly limited supply. But in Northampton, there is ample land left to be developed. Just as with the first alternative, a prime target will be the southern and western parts of the City.

4.3 Redirection to the Core

A third alternative for accommodating growth is to focus new development in the already developed area of the City -- the portions between downtown and Florence, bordered by the Mill River on the south and Bridge Road on the north -- rather than in the outer areas. New development could be in the form of conversions of existing uses to more intense ones, and "infill" development of existing open sites.

Clearly, if this "core" area alternative were to be selected, careful controls would be needed to insure that new development did not have adverse impacts on existing neighborhoods. Further, if core area development were to substitute for development of outer fringe areas, mechanisms would be requied to prevent development outside and direct it to the core.

However, before addressing these issues, the issue of whether or not core development is even realistic must be examined. Specifically, how much new development could reasonably be accom-

modated in the core? Is this amount of new development enough to potentially "make a difference" in the City's development pattern? These issues are examined below.

Core Area Definition

The core area is defined as the area between Florence and Downtown bounded by the Mill River in the south and Bridge Road on the north. For this study, it includes the following assessors' sheets (See map 4.2):

16B	12C	18C	32
	17	24	39A
	23	31	
	30B		

Development Potential

To determine the area's theoretical potential, three types of development possibilities were examined: developing vacant parcels; subdividing and developing larger single family properties; and converting a proportion of single famiy homes to two- and three-family structures. To do this, assessors' data showing the number of vacant lots, lot sizes and current residential uses

were analyzed. It must be re-emphasized that what follows is a thoretical exercise to measure the maximum theoretical development possible in the core area -- not a recommendation or a prediction that all new development would be able to be shifted to the core. Relevant data is summarized on Table 4.2.

Table 4.2. Core Area: Selected Land Use Data

Lots Zoned Residential

Assessors Sheet	Total Lots	Vacant Developable		Single Family Lots		Lots > 3 Acres	
		Number	Median Lot Size	Number	% Total Lots	Units	Total Area (Acres)
12C	119	12	8-8.9	102	94	1	4.5
16B	58	6	< 8	45	78	0	-
17	657	41	10-10.9	506	77%	5	33
18C	192	20	<8	136	71	1	4.5
23	581	49	20-24	417	71	3	31
24	798	25	9-9.9	546	68	2	9
30B	104	9	9-9.9	69	66	0	4.5
31	628	14	< 8	346	55	1	10
32	412	13	< 8	122	29	2	7
39A	16	0	-	9	56	0	-
		189		2298		15	99

Source: Northampton Assessors Office

Map 4.2
Core Area

Vacant lots: As shown on Table 4.2 there are a total of 189 parcels as vacant and potentially developable.

Sizes of these lots reflect the general pattern in the core area wherein lot sizes are below the zoning requirement of 10,000 square feet. With medians of 9-10,000 square feet or less in most quadrants, many lots would not be developable unless variances were granted or the required minimum was reduced. Asuuming that variances were granted and/or down-zoning took place so that the 189 lots were developable, the theoretical development potential of the area would range from 189 to 567 units, depending on whether single family or two- and three-family homes were developed.

Subdivision of Large Lots: As noted above, most of the lots in the core are relatively small -- for example, half the lots in quadrant 24 (north and south of Prospect Street, roughly between North Elm Street and Route 5) are less than 9,000-9,999 square feet; half the parcels in the Elm Street vicinity between Smith College and North Elm Street are less than 8,000 square feet. However, there are some larger properties in the core. Some 13 homes are located on parcels larger than 7 acres; the total area of all of these parcels is 90 acres. Assuming these properties were subdivided into 85 developable acres, and developed at a density of 4 units per acre, some 340 units could be provided.

Conversion of Existing Units: The entire core area now contains a mix of single two - and three-family dwellings. Additional units

could be obtained if more single family homes were converted into multiple units.

There is some variation within the core in the proportion of single family homes to total homes. The western part of the core area contains a higher proportion of single family houses than does the eastern part. For example, 77 percent of the parcels in quadrant 17 contain single family homes; but only 29 percent of parcels in quadrant 32 contain single family homes. However, at least a quarter of the units in each quadrant are in multiple dwellings.

Since small multiple dwellings are scattered throughout the core, some additional conversions could be made without significantly changing the existing mixed single- and multi-family character of core neighborhoods. As an illustrative estimate of this potential, it can be assumed that conversion of 10 percent of existing 2,298 single-family homes to two- or three-family dwellings takes place. In this way, a 230-460 units could be added to the core.

Summarizing the above estimates, additional units could, theoretically, be created in the downtown, as follows:

New Units Created by:	Number of Units
Development of vacant lots	380-570
Subdivision of larger lots	340
Conversions	230-460
	759-1367

Core Development Potential and Demand Compared

The potential of 760 - 1370 units is equivalent to 5-8 years of new residential building, based on the average rate of annual building permits issued since 1970 (162 units per year); or 4-7 years of projected future development (190 units per year). Thus, the core could accommodate a significant proportion of projected future development -- but not all of it.

While accommodating new growth through redevelopment of the Florence-Downtown core is theoretically possible, this is not to say that development in the magnitude estimated above is likely to occur quickly. Clearly, even if rezoning took place and variances were allowed so that all the theoretical amount of development would be permitted, actual development would depend on many individual choices by owners of single-family homes and lots. Building would not be done by single developers of 30- and 40-unit subdivisions, but mainly by individual homeowners who would convert sites or develop single parcels.

Because of these practical limitations, the core development alternative could be by no means relied upon as the single development strategy for the City. However, in combination with other approaches, core development can be a realistic approach.

5. EVALUATION OF THE ALTERNATIVES

Three alternatives for accommodating future growth were presented above: suburbanization, moratoria, and resource conservation. What would be the effects of each alternative on the City's goals for conserving natural resources, City character and fiscal resources?

As will be made clear, none of the alternatives is without consequences, and none is without some unfavorable effects or costs. Northampton must compare the costs and the benefits of each alternative, and then select the course of action that best serves the interests of the City as a whole.

5.1 Impacts of Suburbanization

The suburbanization alternative -- the pattern which the current zoning ordinance establishes, would result in the subdivision and development of open land, principally in the areas of Burts Pit, Westhampton Ryan, and Florence Roads. Suburban development would also occur in other areas such as north of Bridge Road where soils and topography are relatively suitable.

There is ample land in the City to accommodate continued suburban growth. In the general area of Westhampton Road - Park Hill alone are 1,500 acres in tracts of 10 acres or more. This land could accommodate some 1,100 homes (assuming a density of 1.4 acres per unit, the average density of recently-proposed subdivisions) -- equivalent to about six years of projected development.

Additional developable land is available in the west and north.

The suburbanization alternative will result in the loss of open land and farm land to development. Recently adopted controls provide adequate protection of water resource areas currently in use, but other water resource areas may be damaged by suburban development.

Natural resources:

As noted, an aquifer exists in the Ryan Road-Westhampton Road area. The City's two wells draw upon portions of this groundwater resource and in the future, the City may need to rely on it more heavily, as well as upon the Roberts Meadow Reservoir.

The recently adopted aquifer and watershed protection zoning increases lot sizes to one acre in the portion of the acquifer drawn upon by the wells and in the Roberts Meadow watershed. These areas are not sewered except for the developed portion of Ryan Road. If all existing development is connected to the sewer and suburbanization takes place at the one unit per acre density, the aquifer and watershed will probably be adequately protected from pollution caused by on-site septic systems.

In addition, other protections are needed to insure runoff is contained within the aquifer and watershed; that septic systems are adequately maintained; and that road salt and chemical fertilizer application is minimized. With careful enforcement of these controls, suburbanization should not adversely affect the

City's water resources.

The effects of the suburbanization alternative on farmland will be significant. As noted, major amounts of unprotected farmland exist in the Pine Grove-Park Hill area. These farms are likely to disappear with suburbanization.

Forested areas in the western hills may also disappear to suburbanization. As these areas are difficult and expensive to build, they are not as vulnerable as is the farmland.

Character

Suburbanization will destroy much of the rural character of the City. Suburban sprawl at a uniform density will erase the distinction between rural and built-up sections.

The effects of suburbanization on neighborhood character will be mixed. Some neighborhoods will see no impact or change; others will see major change. Existing developed areas will not change at all; their character will remain as is. However, new suburban-scale neighborhoods will not replicate the character of the old, but will be very different. Houses will be built on lots far larger than the City's norm -- upwards of one and one half acres, as compared with the 15,000 square foot median of existing lots. Large self-contained suburban subdivisions will contrast dramatically with older residential neighborhood streets with their mix of single, two-, and three-family dwellings.

A key aspect of the City's character is its mix of housing types reflecting its middle class nature. Suburbanization would not produce the traditional mix of middle class housing. On the contrary, new development would uniformly consist of relatively expensive single family homes on large lots.

In the past, the City encouraged middle class housing by allowing multifamily housing, including small multiples such as duplexes and triplexes; and by allowing relatively smaller lots in some areas to enable savings in land costs. Now, however, as pointed out, virtually all areas of the City where multiple units and single family homes on small lots are permitted by the zoning ordinance have been developed. Thus, new development can only be in the form of single family homes.

Cluster development in now open areas is the one opportunity to achieve some cost savings by providing single famiy housing in small lots or multi-family housing. However, since overall densities in cluster development must be maintained approximately as required in the underlying district, per unit land costs savings are unlikely. While some savings might arise through reduced utilities and road costs, these savings are probably not great enough to allow production of middle class housing.

Fiscal Resources

The chief impacts of suburbanization on the City's fiscal resources will be related to water and sewerage system extension costs, and to the costs of roadway improvements. Although there

is capacity for additional development in existing water and sewer lines, extensions to areas not now served would be needed if suburbanization continues. Existing capacity of some lines would remain unused. (Maps 3.1 and 3.2 indicate locales not now served by the water and sewer systems.)

As noted, much of the City's remaining open land in the western and northern hills contains soils which are classified as unsuitable for on-site septic systems unless lots are three or more acres in size. If development takes place in these areas at a density of one acre, municipal sewer and water would probably be needed. However, because of large amounts of ledge, providing sewer and water would be difficult and costly. (Many of the hilly areas, for example, are characterized by soils of the Hollis type, which contain ledge outcropings every 5-25 feet). Further, pumping stations would be required to serve development at the higher elevations. Existing water facilities in outer areas would have to be upgraded.

Traffic

As development occurs in rural areas, traffic will increase on rural roads such as Westhampton and Burts Pit Road. This impact will be strongly felt because these roads do not have adequate capacity to serve additional traffic volumes, and road conditions are poor. The City will have to make roadway improvements to serve suburban development -- improvements which would be more substantial and costly than if suburban development were curtailed. Improvement

costs could be substantial because of the long lengths of the roadways which will need to be upgraded.

In addition to these impacts in rural areas, traffic volumes at the southern access points to the downtown will increase. (See Comprehensive Roadway Study, Section 3, prepared by Fay, Spofford & Thorndike, Inc., in conjunction with the present study, for additional discussion of traffic impacts.

5.2 Impacts of Moratorium

As noted, a moratorium or prohibition of growth would only be temporary and would not not stop development. Unless the City altered the direction of its growth policies so that suburbanization could be avoided, the effects of a moratorium on the City would be the same as those of suburbanization. If, instead of a moratorium, the City increased lots sizes in now rural areas in an attempt to stop growth, suburbanization would still take place, even though density would be lower. The results would be the same.

5.3 Impacts of Redirection to the Core

Redirection of growth to the core area would focus approximately half the projected ten years of development (800 - 1,300 of the total 1900 units) in the area of the City between Florence and the downtown. This analysis assumes that the zoning changes

required for this alternative have been made.

Natural Resources

To the extent that core development substituted for development of now-rural areas, farmland, open spaces, and water resource areas would be better protected. Thus core development will help protect natural resources.

Character

Core area development will leave rural areas untouched. Thus, redirection to the core will preserve the character of rural areas and will maintain the existing distinction betwen rural and developed areas far more than the suburbanization alternative.

Core area development will cause some physical changes in existing developed neighborhoods as single family houses are converted to two- or three-family dwellings and vacant land is built on. Whether or not these physical changes will result in a change in the character of an entire neighborhood is open to question. As noted, there are already numerous two- and three-family dwellings in all core neighborhoods.

The physical effects could include the following. As single family houses were converted to multiple structures, some exterior alterations would be made, such as the addition of entrances. These alterations need not be unattractive. Along with these physical changes might come better home maintenance,

as rental income was invested in improvements. The number of cars parked at the converted houses would increase. If on site parking were not provided, there would be more cars parked in the street, possibly causing increased congestion and snow removal problems. These problems could be avoided by a requirement that on site parking be provided for all such conversions. Development of scattered vacant lots or large lots could mean the loss of privately-owned open spaces and recreation areas used by neighborhood residents.

The City will have to evaluate the significance of these physical changes in the neighborhoods, and compare them with the effects of the alternative -- subdivision of farms and large tracts of open space.

Redirecting development to the core will help preserve the City's middle class character. Small multiple dwellings, traditionally a source of middle income rentals, would increase in number, thus helping to maintain the supply of rental units as condominium conversions occur.

Redirection to the core would also result in opportunities to build houses on relatively small lots. Houses on small lots are another way in which housing for middle class people has traditionally been provided in the City.

Traffic.

Traffic will increase in the core as new units are developed there. Since development impacts will not be focused in any single part of the core, traffic will be spread throughout. The City will have to make improvements in core area roads regardless of whether or not development in the core area increases. These improvements will be needed to service traffic generated by existing development in the City, and expected growth in traffic passing through the City generated outside. These improvements will provide capacity to accommodate new core area development. (See Comprehensive Roadway Study.)

Fiscal Resources: Redirection of development to the core would conserve fiscal resources because it will make efficient use of existing infrastructure. Core development will not cause the need to expand or build new facilities; thus, core development per se will not require municipal expenditures for road, water, or sewer line improvements.

As noted above, road improvements are required, whether or not core area development increases. Thus, the costs of these improvements cannot be attributed to new core area development.

Development in the core could be served by existing municipal water and sewer facilities. In general, these facilities have adequate capacity for more development when water main upgrading is completed. According to estimates prepared for this study, the capacity of the water and sewer systems in the core is adequate

6. RECOMMENDATION: RESOURCE CONSERVATION

The section aboved showed that of two hypothetical alternatives, "redirection to the core" would be more effective in furthering the City's goals for the future than would "suburbanization." Natural resources would be better protected, the City's rural and middle class character would be preserved, and infrastructure would be used more efficiently.

However, as will be shown below, "redirection" cannot be relied on as the single policy for future growth. The core simply cannot accommodate the full amount of projected development. The most appropriate approach is to redress the balance between suburban and core development, rather than directing all new development to the outer areas as zoning now requires.

The recommended policy, "Resource Conservation," directs development to the core, and to edges of the core.

6.1 "Not In My Backyard"

There is one way in which "redirection" may be interpreted by some citizens as unfavorable or even unacceptable: its impact on existing neighborhoods. Redirection necessarily implies new development -- and hence, change -- in areas where development already exists. Change, per se, may be viewed as unacceptable by some residents, particularly abutters to properties where actual

changes are taking place. However, changes need not alter the mixed residential character of existing neighborhoods at all. The scale of change would be small, and impacts will be scattered throughout the core rather than concentrated in one place, as would subdivision of a farm. Small, scattered changes can be viewed as a "cost" of preserving farmland and natural resources.

This critical issue is a political one that can only be resolved by the residents of the City itself.

6.2 No Single Solution

If the City determined that the advantages of "redirection to the core" outweighs those of suburbanization, and resolves the "not in my backyard" syndrome, "redirection" cannot be the single answer to the problem of accommodating future growth. The core simply will be unable to accommodate all the projected development. As noted, some 1900 new units are projected over the next 10 years; whereas the capacity of the core for new development is estimated at 800 - 1,300. Further, after 1995, development will continue; provision must be made for it as well. Thus, some new development will have to take place outside the core.

6.3 "Nibbling at the Edges"

There are areas at the outside edges of the core where development could occur with minimal effects in resources and relatively minor infrastructure needs. Some of these are already developed; others open. They include part of the Northampton State Hospital

site, open areas north of Bridge Road, and Leeds Village. A strategy of "nibbling at the edges" combined with core development could accommodate the projected demand for 10 years. This dual approach would minimize the amount of open land lost to development, and would use existing sewer lines.

Northampton State Hospital Site: Assuming that the Main Complex property is to be reserved for a non-residential use such as research or industry, the 22-acre Memorial complex is the most significant site potentially available for residential development. With townhouses or multifamily development (under existing zoning standards for URC), as many as 280 units could be built. Sewer and water service is available to the site.

North of Bridge Road: There is considerable open acreage off Bridge Road to the north, and off Haydenville Road. Several of these properties are listed in Table 6.1. Currently these areas are zoned Rural Residential, requiring a minimum lot of one acre. Much of the area has ledge and soils which are unsuitable for development. Although zoning permits a density of one unit per acre, the actual density of development would likely be lower, unless zoning were changed to allow for more flexibility. If, for example, town houses and one-to-four family structures were permitted, intensive use could be made of those portions which were directly developable.

The table contains estimates of potential development, assuming that zoning has been modified to permit multifamily (as well as clustering and planned unit development which the current

ordinance permits) and estimates of development under current zoning. These estimates, prepared for illustration only, indicate the general potential of the north portion of the City. (The estimates are not based on site-by-site analysis.) According to the estimates, some 737 units could be developed in these areas, in contrast to approximately 375 units under current policies. The estimated 737 units could be served by existing sewers according to engineering reviews prepared for this Study.

The City is fortunate that large tracts of open space and conservation land are publicly owned under the jurisdiction of the Conservation Commission north of Bridge Road, so that development potential north of Bridge Road is limited and confined, and newly developed residential areas will be close to open space and conservation areas.

Table 6.1

Illustration: Potential Developable Sites - Bridge Road North

Site Description and Assessor's Sheet Number	Acres	Potential Units (with zoning revisions)	Units, with Existing Zoning*
Site off Haydenville Rd. (G-39, 40, 44 (soil limitations)	63	63	38
Warner Farm (16 B-1) (steep slopes)	30	20**	12
Fitzgerald property (12-21) (some steep slopes)	164	164	98
Open site east of Fitzgerald property (12-21)	83	83	50
Area of proposed Bridge Woods (18 C-1)	38	152	23
Cook's Pasture (part)	75	75	45
Leeds - North (various parcels)	180	180	108
	633	737	374

* Assumes density of 0.6 units per acre, which is the density of recent subdivisions in the City.

** Assumes 10 acres of this site are transferred to the JFK School.

Leeds Village In addition to Northampton State Hospital and Bridge Road North, development could take place in Leeds Village in the same manner as proposed for the core under the "redirection" strategy. Single family homes could be converted to two-family dwellings and vacant land could be built upon.

Development Potential: Leeds Village

	Number of Units
Conversions of 10 percent of 182 existing single family dwellings to 2- and 3-family dwellings	18-32
Development of 20 vacant, existing parcels for two-family dwellings	40
	58-72

Estimated Potential at Edges of the Core Summarizing the estimates above for development potential at Northampton State Hospital, Bridge Road North, and Leeds Village, about 1,100 new units could be created at the "edges."

Northampton State Hospital	280
Bridge Road North	737
Leeds Village	58 - 72
	1075 - 1089

In summary, the 1,100 new units that can be accommodated at the edges, plus 759-1,367 new units that can be absorbed in the core, could accommodate the projected 10-years demand of 1,900 units.

6.4 Resource Conservation: The Recommended Strategy

If the City is to meet its goals for the future, suburbanization should be limited. Development should be directed away from open areas as much as possible and toward already developed ones. In this way, natural resources can be preserved; neighborhood character and a middle class environment maintained; and public infrastructure used efficiently.

Since the "core" -- the portion of the city between Florence and downtown -- can accommodate a good deal of additional development, but not all the growth projected for the next ten years, nor the growth that will take place in the longer term, the City can best meet its goals by 1) focusing new growth in the core and at the outer edges of the core, 2) minimizing development in rural areas, and 3) protecting critical natural resource areas from any development. This strategy, "Resource Conservation,"

is a middle ground or compromise between all or no suburban growth. It allows some suburbanization, but directs it to places where infrastructure with adequate additional capacity exists, and away from natural resources such as the aquifer and the farms.

6.5 The Longer-Term Future

Even if all development in the next ten years took place in the core and at the edges, what of the more distant future, say 20 years hence? Is eventual suburbanization of outer areas inevitable, regardless of what happens in the near future?

Not necessarily.

There are areas which are appropriate for development in the longer term. One is the west side of Easthampton Road about one-half a mile from the Easthampton border. Since this site is less readily developable than the north side of Bridge Road, and sewer connections more difficult, it should be reserved for the future. Although much of the west side of Easthampton Road is steeply sloped, there are some portions with slopes of 1-5 percent. Sewering of this part of Easthampton Road would require a pump station, but the line could tie into an extension of the South street sewer now being contemplated to serve industrial development in the vicinity of the State Hospital.

This corridor may be appropriate for more intensive residential development. High density development, in particular, would

create a buffer between the City and the growing commercial strip in Easthampton. Futher, multifamily development would justify the cost of extending sewerage to the area.

Another potential development area -- this, a "new village" -- is at the intersection of Ryan, West Farms and Sylvester Roads. Here a small group of convenience stores and higher density housing might ultimately be developed. Such a settlement or village would replicate the existing, highly successful urban pattern of the City wherein villages such as Leeds and Florence contrast with rural areas. The village would serve as a convenience center for the surrounding residential areas, reducing the need to drive to the downtown.

The Concept in Abstract.

In broad concept, units could be accommodated as follows:

	Number of Units
Core	759-1367
Northampton State Hospital	280
Bridge Road North	737
Leeds Village	58-72

The develoment pattern that would result is illustrated generally in Map 6.1.

- o New development areas are located at the edges of existing developed areas;

- o Flood plains of the Connecticut and Mill Rivers are preserved;

- o The aquifer and the Roberts Meadow Watershed are preserved;

- o The core area is clearly established by "entrances" at Pleasant Street, King Street, Route 9 East, and Bridge Road-Main Street;

- o The developed area follows the natural Route 9 and Mill River corridor;

- o Within the core, the distinction betwen Florence and downtown is maintained by open spaces: the V.A. Hospital, Childs Park, Look Memorial Park, the Smith Vocational School, St. Mary's Cemetary, and others; and

- o Provision is made for future development areas.

The Concept in Reality

Even if the City adopts the resource conservation plan, the

resulting development pattern will not be as ilustrated by the concept in its abstract form: Some suburban develoment will occur in outer parts of the City; from a practical standpoint, some level of suburbanization is impossible to prevent. To do so, the City would have to purchase all open land, or impose regulations that would be politically unfeasible and probably illegal. Further, core area developers and property owners may simply not chose to develop. Due to these factors, the difference in outcome between suburbanization and resource conservation will be one of degree -- with more open land used up in the former; less in the latter.

The illustrations on Table 6.2 are examples of the various ways in which development of 1,900 units might actually occur under the two strategies, recognizing that under a policy of suburbanization, there would be some development in the core; and that under a policy of resource conservation, there would be some development in the outer areas. The table presents several versions of development under resource conservation to illustrate the many options: that is, "A" assume that less development takes place in the core, and more development takes place in the outer areas in the southwest than does "B". "A" is more conservative than "B". Development in the core and Leeds Village could amount to 120 units under suburbanization, but as many as 860 under resource conservation. Under suburbanization, as many as 1,700 units could be built on land now open in the South and Bridge Road North; under resource conservation, only 900-1,300 units might be built there.

(Note: Figures provided to Fay Spofford & Thorndike, Inc. as the basis for traffic projections in the Comprehensive Roadway Study, Table 4, were developed early on in this study and differ slightly from those on Table 6.2. In general, they are mid-way between "A" and "B" for the suburbanization option. For the suburbanization option, the figures provided for the traffic study show slightly more core and Bridge Road North development, and less development in the outer areas than does Table 6.2. Despite these differences, the results of the traffic projections -- that "(T)he suburbanization option will generally result in more traffic in the southwestern quadrant of the city, and higher traffic volumes at southern access points to the downtown when compared to the proposed Resource Conservation Option..." and that the "resource conservation option will tend to produce higher traffic volumes at the northern access points to the central business district" are valid.

Table 6.2

Hypothesized Distribution of 1900 Units Under Alternative Strategies

LOCATION OF DEVELOPMENT	DEVELOPMENT STRATEGY		
	Suburbanization	Resource Conservation	
		A	B
Core	100	400	800
Northampton State Hospital	88	132	200
Bridge Road North	300	400	500
Leeds Village	20	40	60
Outer areas **	1392	928	340
Total:	1900	1900	1900

* Included in Bridge Road North.
** Mainly South and Southwest, in vicinity of Westhampton and Burts Pit Roads.

Open Land Impacts

The estimates above illustrate several of the critical differences between the impacts of two strategies: the amount of open land consumed in the outer areas -- where farms, the aquifer, and open space are located. At the rate of 1.4 acres of land per unit -- the average land consumption rate of new development -- some 2100 acres of open land in this area would be lost to development under suburbanization, while 510-1400 acres would be lost under resource conservation.

Traffic Impacts

A second difference between the two strategies is that of traffic impacts. However -- and perhaps surprisingly -- the differences between the two options are relatively small, particularly in the downtown area.

As part of the Comprehensive Roadway Strategy, traffic projections for 1995 were made for the suburbanization and resource conservation alternatives.

Composite 1995 traffic projections for the AM and PM peak hour were estimated by combining anticipated traffic from potential development sites in the City with estimated background traffic growth. With projected Northampton development and background growth, streets are expected to experience, on average, about 4.4 percent traffic growth per year -- a total of about 44 to 48 percent by 1995.

The suburbanization option will generally result in more traffic in the southwestern quadrant of the city where roads are poorly suited for increased volumes. Improvements will be needed. Traffic volumes will be higher at southern access points to the downtown, compared with the resource conservation option. The resource conservation option will tend to produce higher traffic volumes at the northern access points to the central business district.

However, the differences in traffic impacts of the two options are relatively minor in the core area. Although one might expect downtown traffic to grow far more with core area development

than with suburbanization, such is not the case. Traffic on Bridge Street under I-91 is projected to increase by 41 percent under resource conservation and by 38 percent under suburbanization; traffic on Bridge Road west of Elm Street is projected to increase by 68 percent under resource conservation and by 61 percent under suburbanization.

Traffic impacts of the two options differ widely, however, in the west and south, as shown below, with the increases greatest under the suburbanization option.

Location	Percent Expected Increase in Volume 1986 - 1995	
	Suburbanization Alternative	Resource Conservation Alternative
Ryan Road, South of Florence	73 %	41 %
Burts Pit Road, West of Florence	111 %	44 %
Westhampton Road, West of Florence	79 %	36 %

Source: Comprehensive Roadway Study, Fay, Spofford and Thorndike, Inc.

The impact projections show that traffic will increase in the core regardless of which option the City chooses. The significant difference between the two options is in the traffic impacts in the South and West. (See Comprehensive Roadway Study for a more complete discussion of traffic impacts.)

Implementation

In order to direct development to the core and its edges, and away from resource areas and farms, the City will need to adopt a set of new regulations and incentives. Since as noted, it will be impossible to prevent some amount of suburbanization, protection of critical natural resource areas and farmland from development will be critical.

These implementation tools are outlined in the next section. In addition to tools which direct the location of development are those which influence impacts, costs and rate. These latter tools could be adopted even if the City chooses to continue the current policy of suburbanization.

7. IMPLEMENTATION

The strategy for resource conservation will help Northampton reach its goals. Resource conservation will focus some new growth in and near the core, rather than directing all of it to outer areas, as does the existing zoning ordinance. In this way, natural resources will be protected, the City will retain its middle class character, and infrastructure will be used efficiently.

To carry out this strategy, the City will need a new set of tools and regulations to guide the location, type, and impacts of development. In some cases, entirely new regulations and programs should be adopted; in other cases, existing regulations should be modified.

The recommended tools and programs, presented below, are carefully related, reflecting the dual thrust of the resource conservation strategy: of guiding growth to suitable areas and away from others. Thus, tools should not be adopted singly, but rather as packages of mutually reinforcing techniques. Indeed, adopting one recommendation alone could be counter productive. For example, if lot sizes in rural areas were increased, but no provision were made to allow growth in the core, home prices could increase and the goal of the City to encourage middle class housing opportunities would be undermined.

The recommendations do not represent "radical" changes in policy but recognize that some new developments will occur in suburban

areas. Thus, recommended changes in zoning focus on protecting those areas which are least suitable for development, and upon permitting some new growth in the core.

The recommended tools and programs are presented below, organized according to the purposes they are intended to fulfill.

7.1 Recommendations to Guide the Location of Development

7.1.1 Recommendations to Protect Natural Resources and the Character of Rural Areas

1. Increase minimum lot size requirements in portions of the rural areas of the City to three acres.

   As noted, the existing one-acre minimum lot requirement in rural residential districts will ultimately result in development at a suburban density; this is inconsistent with the City's desire to maintain a contrast between urban and rural areas. Further, suburban development in some rural parts of the City will result in the loss of valuable open space and would necessitate costly improvements in public facilities and services.

   A new district -- "Rural Residential - 3 acres," in which the minimum lot size is three acres -- should be established in

areas which are least suited for development. These include hilly sections where soils and topography make for relatively difficult development conditions; remote portions of the City such as the southwest where new development would require that the City make road improvements which would otherwise be unnecessary; and areas where unprotected farmland and ground water resources exist.

The areas recommended for inclusion in the "Rural Residential - 3 acres" district include those west of Spring Street and Ryan Road; and west of Florence Road in the vicinity of Burts Pit Road and to the south. They are shown generally on map 7.1 (Actual district boundaries should follow roads and property lines.)

Current zoning in these sections is Rural and Suburban Residential (the portions west of Ryan Road and Spring Street) and URA (between Florence and West Farm Roads). Required minimum lots range from one acre to 20,000 square feet.

Since recent subdivisions have lot sizes averaging 1.4 acres, the actual effect of increasing the minimum to three acres in Rural Residential districts is to at least double lot sizes of future residential development.

2. Help preserve character of rural areas by prohibiting structures of "urban character" -- multifamily dwellings -- in rural

areas.

Existing zoning reflects the City's policy that developments in rural areas should be of a different character than those in more developed sections. The ordinance, for example, prohibits multifamily structures in cluster developments in Rural Residential districts. This approach should be extended by eliminating other zoning provisions which allow "urban" type structures in Rural and Suburban Residential districts. Specifically, the City should prohibit Planned Unit Developments (PUD) in Rural Residential - 3 districts; prohibit multifamily dwellings in cluster developments in SR districts; and should prohibit multifamiy dwellings in PUDs in SR and RR districts. (Attached dwellings -- rowhouses and townhouses -- should be permitted.)

3. Promote flexible land development techniques and the preservation of open space by encouraging cluster development throughout the City, and PUDs in the core area, by reducing required minimum sizes of cluster PUD tracts.

Cluster development, by allowing for flexibility in lot sizes, promotes open space preservation and development that is more sensitive to the natural characteristics of the land than does lot-by-lot subdivision. The zoning ordinance, by requiring that cluster tracts contain a minimum of 12 acres, limits opportunities for these developments. The City should expand them by reducing the minimum size of a cluster tract to 3-5 acres.

Map 7.1

Recommended Zoning change

Outer Areas

PUDs could be beneficial in developed parts of the City by, for example, allowing mixed use of formerly institutional properties. These opportunities are severely limited now becaue of the minimum area requirements for PUDs of 50 acres in URA, 25 acres in URB and 5 acres in URC. The City should facilitate PUDs by reducing the minimum tract size to 3-5 acres throughout URA, URB and URC districts.

4. Strengthen existing measures for the protection of aquifer and watershed areas.

The City adopted a Water Supply Protection District in the fall of 1986 which established special regulations for development in the Roberts Meadow Watershed and in the portion of the aquifer which contributes to the two City wells.

This important step in protecting municipal water supplies should be completed in several respects. The City should adopt regulations requiring that existing development in the Water Supply Protection District connect to the public sewerage system; that commercial application of chemical fertilizers in aquifer areas be prohibited; and that all on site septic systems that are located outside the Water Supply Protection District be inspected and maintained annually. The latter provision would ensure the proper maintenance of septic systems throughout the City, including those located

in the aquifer but not within the Water Supply Protection district. Further, adequate maintenance of septic systems, wherever located, would reduce the need for eventual extension of the sewerage system.

5. Take a more active City role in preserving farmland by promoting the program with local farmers and contributing to the funding of farmland development rights purchase.

Zoning changes, while important in guiding development, will not be adquate to protect farmland from development. Stronger measures will be needed.

The Commonwealth has established the Agricultural Preservation Restriction Program to promote preservation of farmland. In this program, public funds are used to purchase farmland development rights, the value of which is defined as the difference between the market and farmland value of a property.

Up until the present, the program has been carried out entirely with state funds. Now, however, affected municipalities will have to participate in the funding. Thus, Northampton should make monetary contributions to protect additional farmland in the City. One source of funds would be proceeds from a land bank (see below).

In addition to providing funding, the City should target specific properties to be included in the program -- particu-

larly in the Park Hill-Pine Grove area -- and should work actively to encourage farmers to participate in the program.

6. Implement an open space program through acquisition of public open space, using funds from state and local sources.

Maximum use should be made of state funding programs, such as the Urban Self Help Program, and DEQE programs to acquire public open space and to make improvements to publicly owned lands for conservation and recreation. Special priority should be given to acquiring land within the aquifer protection district and around the City's surface water supplies located in other communities.

A land transfer tax should be established of approximately one percent to apply to all land and property sales, the proceeds of which should be set aside to purchase, protect and maintain public lands for conservation, open space and recreation. The "banking" of such public lands might also assure the avilability in the future of needed land for future public schools and associated recreation and playing fields. State legislation enabling such "land banks" at the local level should be encouraged.

The levy of a land sales tax is a reasonable way of raising needed public revenue, since it comes into play only when property is sold (usually at a substantial profit). The tax is a way of repaying the community for its contribution to

increased property values. Unlike the alternative of raising property taxes, land sale tax does not force land into development, but, rather, only applies at the point when intensification of development is likely to be contemplated. While such a tax may increase land costs somewhat, its major impact would probably be to decrease the profitability of speculators who buy and sell land.

7. Discourage suburban sprawl by maintaining the existing sewer service area, rather than extending municipal sewerage to rural areas.

Recognizing that sewer lines make suburban-level density development possible, the City should not extend sewer lines into rural areas. (One exception may be a line needed for the effluent from the landfill. This line should be designed to carry the effluent from the landfill only, without additional capacity for residential development.) Extension of the existing system should be made only to serve new growth areas at the edges of the core. In addition, sewerage may be needed along Route 10 south to promote industrial development.

8. Encourage replication of the traditional rural area land use pattern in which small villages contrast with open space, farmlands and rural development.

The City should provide for additional villages by creating Neighborhood Business districts in selected locations such as West Farms and near Northampton State Hospital. See map 7.1.) These areas, located at crossroads and already containing some development, are natural places for "convenience" type facilities such as small stores, branch libraries, etc.

9. Encourage the preservation of open space through incentives to maintain large, significant parcels of open land in cluster and PUD (Planned Unit Development) in Rural Residential and Rural Residential - 3 Acres districts.

All clusters and PUD developments must include permanently preserved open space. However, farmland, water resource areas and single, large tracts of open land can be more beneficial to the preservation of rural character and of open space than small open lots scattered throughout a development.

The City should encourage permanent preservation of farmland, aquifer areas and other meaningful tracts by of open space, by allowing a density bonus (of 10-20 percent) for cluster and PUD's when such lands, including contiguous tracts of 20 acres or more, are dedicated as permanent open space. The bonus should apply only to cluster developments on tracts of 10 or more acres, and only when the City deter-

mines in its special permit review that the potentially dedicated sites are valuable ones for aquifer protection, open space, or other purposes.

This modest (10-20 percent) density bonus will serve as an inducement to developers to apply for Cluster Development Special Permits, and is necessary to offset the increased costs, risk, and time delays incurred by a developer in applying for a Special Permit. The density bonus will also give the Planning Board the leverage to insist on the retention of beneficial areas of open space within the development, rather than allowing developers to simply retain minimally developable "left-over" land on the edges.

7.1.2 Recommendations to Preserve the character of developed areas and to guide development to the core, its edges, and to Leeds Village

10. Adjust zoning requirements to conform to the existing development pattern by reducing core area minimum lot size requirements, and changing portions of Leeds Center to URB from URA.

Residential zoning in the core is predominantly URB and URC, except for small parts of the core zoned URA and RR north of Bridge Road, and an area zoned URA bordering Prospect Street. Table 7.1 and Map 7.2 show core area zoning by the assessors

sheet identifications used to define the core. Lots of a minimum of 10,000 square feet are required in URB and URC districts; in URA districts, the minimum is 20,000 square feet.

As noted (Chapter 4, above), many lots in the core area are smaller than required by zoning. Table 4.2 shows that the median size of existing vacant developable lots is below 10,000 square feet throughout the core, except for assessors' sheets 17 and 23. Many developed lots are also smaller than 10,000 square feet. Table 7.1 shows that at least one third of existing single family homes are on lots of less than 10,000 square feet throughout the core, except for sections 12C, 30B and 39A. These sections lie at the edges of the core. Lot sizes in sections where URA zoning applies -- sections 17 and 24 -- are well below the 20,000 square foot minimum.

Map 7.2

Core Area Zoning

TABLE 7.1 Core Area Zoning and Lot Sizes

Assessors' Sheet	Existing Zoning	Median Single Family Lot Size (000)	% Single Lots Less Than 10,000 Sq. Ft.
12C	URB, SR, RR	13 - 13.9	5
16B	URB	10 - 10.9	24
17	URA, URB, SR	12 - 12.9	30
18C	URB	11 - 11.9	45
23	URB, some Industrial and Business	13 - 13.9	31
24	URA, URBA, URC, Business	9 - 9.9	55
30B	URB, SR	20 - 24.9	14
31	URB, URC, except Northampton State Hospital	8 - 8.9	60
32	URC (developed portion)	Less than 8	57
39A	URC, Business	13 - 13.9	22

The many existing lots in URB and URC districts below 10,000 square feet, and in URA districts, below 20,000 square feet, are nonconforming lots. Development of these nonconforming vacant lots and extensions of uses of single family homes on nonconforming lots would require variances.

If required minimums were reduced in URA, URB and URC districts, core area lots could be developed more readily; no longer would variances be required for the kinds of development traditionally done in the area. It is recommended that the zoning ordinance be amended to reduce required minimum lots in these districts by at least 10 percent, to 9,000 square feet in URB and URC districts, and to

18,000 square feet in URA districts. This step would make zoning requirements more consistent with the existing pattern.

Further, it is recommended that the zoning ordinance be amended to provide for special permits to allow development of a lot which is below the required minimum, when the average size of the lots adjacent to the lot in question, and the lots adjacent to those, is equal to or below that of the lot in question.

If these recommended amendments were made to URA, URB and URC districts in the core only, three additional districts would, in effect, be added to the zoning ordinance. This complication could be avoided by lowering required minimum lot sizes in all URA, URB and URC districts. This approach is advisable since URB and URC districts are located only in the core and in Leeds. As noted, the development pattern in Leeds is similar to that in the core, and should be replicated in future development.

URA districts outside the core are located in Leeds and along Spring Street and Ryan Roads. Since, as noted, conditions in Leeds are similar to those in the core, reducing minimum lots in URA districts in Leeds would have the same positive effects as in the core.

Consistent with the City-wide pattern, development in the Spring Street - Ryan Road area is generally on lots smaller

than the zoning ordinance requires, particularly along Ryan Road. Most of this area has recently been placed in the overlay Water Supply Protection Zone, in which lots of one acre are required. Thus, reducing the minimum lot size required in the URA zone would not affect actual lot sizes in this area.

Development in Leeds Center corresponds more closely to URB requirements than to those in URA. Therefore, it is recommended that a portion of Leeds Center (see Map 7.1) be charged to URB.

11. Encourage the development of traditional Northampton housing types, that is, two- and three-family dwellings.

The development of two- and three-family homes is currently prohibited in large areas of the City and is further restricted by a special permit requirement in zones where potentially allowed. In order to accommodate the traditional form of development in the core, the City should allow two- and three-family dwellings, by right, throughout the core area and Leeds Village. Lot area and parking requirements would have to be met. Lot areas should reflect the district minimum requirements recmmended above, with 1,000 square feet required for each unit in addition to a single family one. Parking should be provided on site as the zoning ordinance now requires.

As noted, two- and three-family dwellings are scattered throughout all sections of the core and Leeds. The recommended step would facilitate the development of additional units in the core, and would legalize existing ones. Formerly illegal units would be placed on the tax roles, and would be subject to City inspection for health and safety.

Several zoning changes will be needed to implement this step. The existing ordinance does not permit two- and three-family structures in URA districts, and allows two- and three-family units only by special permit in URB districts. It makes no provision for semi-detached single family homes -- that is, two individual living units, each with a private entrance and individual lot, and sharing a common wall.

As noted, it is recommended that two- and three-family dwellings, and semi-detached dwellings, be allowed in URA, URB and URC districts by right, as long as lot size and other requirements are met, rather than by Special Permit. Requiring that such structures obtain special permits would increase the workload of the Board of Appeals, heavily involving them with projects of relatively small scale. For the Board to devote its efforts to small scale projects does not seem adviseable, given the importance of evaluating major projects.

Amendments should be made in the Definitions and Table of Use Regulations in the ordinance to:

- define two-family, three-family and semi-detached dwellings. See Appendix 2 for sample language.

- permit two- and three-family dwellings, and semi-detached dwellings by right in URA, URB and URC districts.

- clarify the wording of the minimum lot size requirement for two- and three-family dwellings that the first unit require the basic (single family) lot, and each additional unit require 1,000 square feet.

- establish minimum lot size requirements for each unit of semi-detached dwellings at either the required minimum for two-family dwellings when the semi-detached dwelling is sited on a common lot, or one half the required minimum for a two-family dwelling for each unit when each is sited on an individual lot. Institute a zero side set-back requirement at the attached sides of the dwelling.

As with the recommendations to reduce required minimum lot sizes, these changes should be applied to URA, URB and URC districts throughout the City.

12. Begin a systematic program to upgrade water lines in the core and in Leeds Village.

Dead-ended and undersized water lines should be systematical-

ly replaced so that existing water pressure and quality problems are eliminated. This measure is necessary to serve existing development; further, it will enable the water system to service additional residential development as it occurs in the core and Leeds Village.

13. Provide areas for new development, and encourage the provision of middle income housing, by allowing a density bonus for development at outer edges of the core where development can be accommodated efficiently, when affordable housing is provided.

An essential element of the resource conservation strategy is to provide for new development in areas where it can be accommodated efficiently, at the same time restricting development in less suitable locales. Properties on the north side of Bridge Road and the east side of Haydenville Road are suitable development areas. Currently they are zoned Rural Residential and Suburban Residential. Another area well suited for development is the Memorial Complex portion of Northampton State Hospital. (The Main Complex is better suited for mixed use.)

The City should establish an overlay district -- "Rural Residential - Incentive" north of Bridge Road. In this new district, development would be permitted by special permit at greater densities than allowed in the underlying district, -- on the condition that a certain percentage of the units

developed would be for low and moderate income persons. (See Map 7.1 for the general location of this district.) Allowed density should be up to 5 units per acre in the Bridge Road North area, if at least 33 percent of the units are affordable to median income households and families and if 10 percent of the units are available to households and families with incomes less than 80 percent of the median income.

Development at the Memorial Complex portion of the Northampton State Hospital should be permitted at URC densities if these affordable housing targets are met. See Map 7.1 for recommended zoning of the Memorial and main complex portions of the Hospital site.

The required set-back of development from Bridge Road should be increased to reduce the visibility of development and maintain open space. Further, the City should require a buffer strip of trees and other dense plantings in areas where the density bonus is granted. Additional measures to reduce the visual traffic and other impacts of such projects along Bridge Road and Northampton State Hospital can be required in the site plan review process, as recommended earlier.

14. Establish a Design Review process to be applied to the Downtown Area.

The City should adopt a clear and understandable set of design criteria to apply to the Downtown Area, derived from

a careful analysis of the basic qualities and characteristics of downtown architecture and urban design worth respecting and preserving, and establish a Special Permit - Design Approval Procedure that would require privately funded new construction (and substantial renovations and changes to existing buildings) to meet these basic design criteria. The Design Review Process would be activated by formally establishing a Downtown Design Review Overlay District encompassing the Downtown Historic District and adjacent areas having a visual impact on the District within the Overlay District. Approval for proposed projects with uses, densitites, etc., otherwise allowed, would be made subject to the issuance of a Special Permit - Design Approval by the Planning Board. By municipal ordinance, a Downtown Design Review committee should be established and authorized to continue its function of reviewing publicly funded projects but also to review privately funded new construction and significant building alternations and renovations for conformity to the adopted design criteria. The Design Review Committee will advise the Planning Board as to whether the Special Permit - Design Approval should be granted or denied. In the process of reviewing proposed design plans, the Design Review Comittee would suggest to the applicant how the project could be changed in order to make the project conform to the ordinance.

7.2 Recommendations to encourage the type of residential development that is suitable for middle income Northampton

Residents.

15. Encourage an increase in the supply of affordable homes for purchase and rental, by permitting two- and three-family dwellings in already developed areas.

See 11. above.

16. Permit the development of accessory apartments in single-family homes throughout the City.

Accessory apartments are an effective way of producing affordable rental units and of supplementing the income of home owners, thus making home ownership affordable.

Zoning regulations can insure that their neighborhood impacts are minimal. Only one accessory apartment should be permitted in a single-family home. Accessory apartments can be defined in the ordinance as containing no more than 600 or 700 square feet; that they constitute no more than 25 percent of the useable floor area of the entire structure; and that in providing them, there be no change in the front facade of the structure. The parking requirement should be set at one space per accessory apartment. With clear standards in place, accessory apartments should be permitted by right.

In addition to amending the zoning ordinance to allow accessory apartments in single family dwellings, the City

should declare a temporary amnesty for existing accessory apartments. During the period of the amnesty, the City would take no civil action against illegal conversions, provided that the units were inspected and found to be safe and in conformance with the building code, and are reported to the assessors.

17. Provide areas for the development of multifamily units -- traditionally an affordable housing type -- by incentives to increase permitted densities at the edges of the core; specifically, at the Memorial Complex portion of the Northampton State Hospital site.

See 13. above.

18. Allow two-family dwellings in rural areas of the City, as well as in the developed portions.

The City should allow conversions of single family dwellings to two-family dwellings, and new ones, in Rural and Suburban Residential districts, by right.

The minimum lot area for such developments should be one and one-half times that required in the district in which the project is located.

7.3 Recommendations to control the impacts of development

19. Require Site Plan Review for major projects, so that impacts of potential projects can be carefully defined and scrutinized.

Require site plan review under zoning (as form of special permit) for projects with potential major impacts such as on traffic, water consumption, etc. Developers would be required to submit complete information on site design, traffic generation, and use of infrastructure. Uses which typically have significant impacts, such as fast food restaurants, and all large scale industrial, commercial and residential projects should be subject to the requirement. "Large scale" can be defined in terms of square footage (commercial and industrial projects) and numbers of units (residential projects).

20. Strengthen building and occupancy permit procedures by requiring comprehensive reviews by all affected City departments of building and occupancy permit applications for all new buildings.

The City should institute a requirement that all building projects seeking building and occupancy permits provide complete information for review by the Building Department, the Department of Public Works, and other affected agencies. The process should be coordinated by the Building Inspector, and should include plans, prepared by a registered professional engineer showing water and sewer tie in's, drainage,

and access roads. (See Appendix 3 for sample forms.)

This procedure will be of critical importance to successfully accommodating core area development. Careful review of projects in this densely developed area by all departments is essential.

7.4 Recommendations to conserve the City's fiscal resources by controlling the costs to the City of new development.

21. Require that new development pay for a "fair share" of the public improvements it requires.

The City can use the special permit process to obtain information about the requirements of new development, and to negotiate with developers regarding in kind or dollar contributions. The recommended site plan review procedure will generate the information required to do this.

An alternative approach toward obtaining private developer funding would be a system of "linkages" or extractions, wherein developers would be assessed based on square footage, and the proceeds placed in an improvement fund. However, since the legal status of linkage payments is unclear at this point, negotiation seems the more practical course.

22. Provide a direct link between users of sewer service and the providers of the service by establishing the public sewerage

system on a self-supporting basis.

The City should establish the sewerage system as a separate fund in the City's budget and accounting system. In this way, fees would be set to reflect true costs of delivering sewerage service, and fees collected would be allocated to the Sewer Department. Such is not the case at present. Sewer fees are now set by the City Council and do not accurately reflect, or cover, the cost of providing sewerage service.

7.5 Recommendations to regulate the pace of development

23. Regulate the pace of development by limiting the number of building permits that can be issued in one year.

The City can prevent major spurts in development activity by requiring that, when the City-wide rate of building permit issuance exceeds a stated maximum, new subdivisions be built according to a schedule which stretches the construction period over a period of years. By applying the limit to subdivisions, core area development would effectively be exempt from the limit.

Subdivisions which contain a minimum given percentage of low and middle income housing could be exempted from the scheduling requirement. Zoning could be "frozen" for the duration of the building period. (For an example, the

regulation could state that when the rate of building permits exceeds an annual average of 160 units, new subdivisions of 10 units or more would be subject to a completion schedule of 40 percent in the first two years, and 10 percent in each subsequent year.) This recommendation will be an important way to alleviate public concerns that development is out of control.

8. ACTION PLAN

Some 24 recommendations were presented above for implementing the resource conservation strategy. This section deals with carrying out the recommendations -- the priorities, responsibilities and schedule for immediate action.

Many different kinds of actions will be required -- zoning amendments, amendments to various other City regulations, development of new funding sources for open space purchase and implementation of a public open space program, programs of the Department of Public Works, and administrative changes. The list below presents the recommendations grouped by the type of action required.

Zoning Amendments

1. Increase minimum required lot sizes in rural areas.
2. Prohibit structures of urban character in rural areas.
3. Promote use of cluster development techniques.
8. Encourage replication of village-rural development pattern.
9. Encourage preservation of significant open space.
10. Reduce core area minimum lot requirements, and change portions of Leeds Center from URA to URB.
11. Allow two- and three-family dwellings in core area.
13. Allow density bonus in suitable development areas at core edges.
14. Establish design review process.

15. Encourage affordable housing by permitting two- and three-family dwellings in core.
16. Allow accessory apartments in single family homes throughout the City.
17. Provide areas for multifamily housing in suitable areas.
18. Allow two-family dwellings in rural areas.
19. Require site plan review for major projects.
21. Require new development pay a full share of its costs.
23. Regulate the pace of development.

Conservation and Environmental Quality Activities

4. Strengthen aquifer and watershed protection.
5. Take active role in preserving farmland.
6. Implement open space program and seek funding.

Department of Public Works Programs

7. Maintain present sewer service area; discourage extensions to rural areas.
12. Upgrade water distribution system in core.

Department of Public Works Administrative Changes

20. Strengthen Building and Occupancy Permit procedure.
22. Place sewer department on self-sustaining basis.

8.1 Priorities for Action

The City should begin at once to implement high priority recommendations -- those which will have the most impacts on promoting the resource conservation policy. These are the actions which will have the most significant effect on the location and type of growth, and on controlling the impacts of development. Other recommendations are less immediately pressing as they would not affect as many developments, nor would they address longer term issues.

The priority recommendations include the following measures:

Zoning:

- Increase minimum lot size requirements in portions of the rural areas of the City to three acres;

- Reduce core area minimum lot size requirements to conform to the existing pattern;

- Permit the development of two- and three-family structures, semi-detached dwellings and accessory apartments as traditional forms of affordable housing;

- Increase permitted densities at certain outer edges of the core where specified conditions are met;

- Require Site Plan Review for major projects;

o Regulate the pace of development.

Conservation and Environmental Quality

o Take an active role in preserving farmland.

Public Works

o Begin a systematic program to upgrade water lines in the core area;

o Strengthen Building and occupancy permit procedures.

The remaining recommendation should be addressed once action has begun on the priority ones.

The list of priority actions is a long and complex one, and includes a variety of types of actions -- from changes in specific regulations to programs which will require many years to complete. The objectives of the policy are closely interdependent: development is to be guided toward certain areas and away from others. To accomplish this, not only must regulations be changed but also, certain public improvements will be required to enable development in the desirable areas, and impacts must be carefully controlled. This whole series of coherent and interdependent activities must be undertaken simultaneously. The next section describes how this can be done.

8.2 Responsibilities for Action

Carrying out the recommendations will ultimately require action by the City's key governmental body: the City Council. The Council is responsible for adopting all zoning amendments, appropriating funds for land purchase and appropriating funds for public works programs. Other boards will be involved as well: the Planning Board, the Conservation Commission, the Board of Health, the Board of Appeals and the Board of Public Works. All of these boards must be carefully informed about the need for a new approach to guiding development, the resource conservation policy, and the importance of the recommended actions.

Because of the number of necessary actions and the number of boards that will be involved, coordination of all implementation activities will be essential. This function should be assumed by a single entity.

The Strategic Planning Committee is the ideal group to assume this role. The Committee has been working for nearly a year to develop the Resource Conservation Plan, and is fully informed of the issues. Membership on the Committee representa all the Boards which will be involved in implementation, and includes staff of both the Planning and Development, and Public Works Departments.

The duties of the Strategic Planning Committee shall include

- o overseeing the development of recommndations into action-ready form;

- o reviewing the progress of ongoing programs;

- o liaison with City boards, providng information about recommended programs, and encouragement to enact them;

- o monitoring the City budget to insure that adequate funds for implementation are available; and

- o issuing information to the press, and conducting other public information activities.

Given the number and variety of the recommended actions, the Committee can work most effectively by forming subcommittees to take resonsiblity on individual activities. The Committee as a whole would share joint responsibility for implementation of the full program, but the responsibility for individual tasks would be delegated to subcommittees.

The subcommittees should include the following:

- Subcommittee for Planning and Zoning

- Subcommitee for Conservation and Environmental Quality

- Subcommittee for Public Works

Each subcommittee would be responsible for the priority actions as listed in section 8.1 above.

The subcommittees would be responsible for working with individual departments, committeee staff and consultants to bring recommendations into reality. They would report to the Commitee as a whole on progress, and would enlist support of the full committee when necessary.

The Strategic Planning Commitee should meet monthly during the initial implementation period to oversee adoption of the recommended zoning change and progress on the other priority items. Later, the quarterly meetings may be sufficient.

8.3 Program for Immediate Action

As noted, the three Strategic Planning Committees'subcommittees should take responsibility for overseeing implementation of the priority actions.

Planning and Zoning

The Planning and Zoning Subcommittee should udnertake the following activities:

1. Develop text of zoning ordinance amentments.

Of the six recommended priority zoning actions, the first three will involve changes in the zoning map and Tables of Use and Dimensional and Density Regulations; the second three (the RR-Incentive district, Site Plan Review, and regulation of the pace of development) will involve development of new text.

The Subcommittee should direct its staff and consultant to prepare drafts of the texts of specific amendments, and should review them. After approval, the Subcommittee should present the drafts to the full Strategic Planning Committee for endorsement.

2. Formally submit the proposed amendments to the City Council.

After the amendments have been endorsed by the Strategic Planning Committee, the Committee should submit them to the City Council. They will then be forwarded to the Ordinance Committee.

3. Explain the amendments and the need for favorable action to the Ordinance Committee.

Members of the Subcommittee and full Stragegic Planning Committee should formally and informally explain to the Ordinance Committee the development of the Strategic Plan, and the needs for the amendments.

4. Provide information to the public about the amendments.

   Committee members should use the media to explain the Strategic Plan, the need for zoning changes, the purposes of the amendments, and other issues.

5. Formally present the amendments to the Council at Public Hearings.

   As primary advocates of the proposed amendments, members of the Stragegic Planning Commiteee should present the amendments ot the full City Council at the public hearing.

Conservation and Environmental Quality

1. Work with Planning and Development staff to develop a list of priority farmlands for preservation under the Agricultural Preservation Restriction Program, focusing on the Park Hill-Pine Grove area.

2. Estimate local costs to implement the program, and develop alternative funding strategies.

3. Work with farmland owners to encourage them to participate in the program.

4. Present periodic progress reports to the full Committee.

5. Provide support for legislative efforts to enable municipalities to establish local land banks.

6. Seek funding from DEQE and other sources to acquire land within areas critical to the protection of municipal water supplies -- land around city wells and within aquifer recharge area; land around surface water supplies located outside Northampton; and land within the watershed feeding the Roberts Meadow/Lower Leeds Reservoir.

Public Works

1. Work with Public Works Department staff to establish and begin to implement an area-by-area plan for water main repair and replacement in the Core.

2. Present progress reports to full Committee.

3. Present progress reports to the full Committee on revisions of the Building and Occupancy Permit System. Engage the full Committee in ensuring the new system is adopted and effectively used by City departments.